

MI COVID RESPONSE DATA AND MODELING UPDATE

August 9, 2022

Epidemiologic Surveillance: Key Messages

COVID-19 pandemic is decreasing in some parts of the globe and within the United States

- Case rates for several European countries are showing steady signs of declines
- Within the U.S., case rates decreased 7.3% over the past week
- Most midwestern states (region 5) are increasing but some have shown early signs of a plateau

COVID spread in Michigan is increasing

- COVID spread is assessed from many different markers including CDC community levels and other surveillance systems
- As of Aug 4, 64% of Michigan counties are at medium or high COVID-19 community levels, which is higher than last week
 - 18 Michigan counties, including our most populous counties, are classified as High this week according to CDC's Community Levels (22%). This represents 51% of the population.
 - 28 Michigan counties are currently at Medium level (34%). This represents 15% of the population
- The R_t for Michigan is ≥ 1 indicating COVID is spreading but R_t is approaching 1 again (plateau)
- The proportion of specimens sequenced and identified as BA.5 in the U.S. and Michigan continues to remain the most dominant
- 45% of SWEEP sites saw an increase in the most recent week and another 10% of sites saw a plateau

COVID-19 hospital metrics in Michigan remain lower than past surges

- COVID-19 hospital admissions, hospital census, and ICU census increased this week from last week

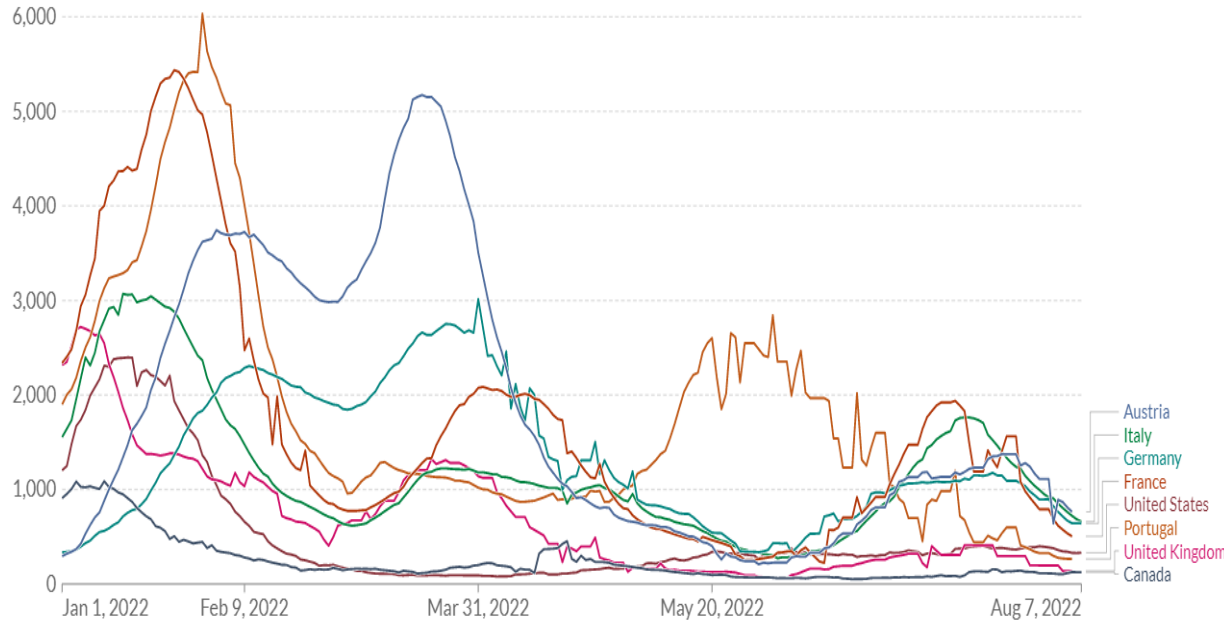
Global and National Trends: BA.5 is most prevalent variant

Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

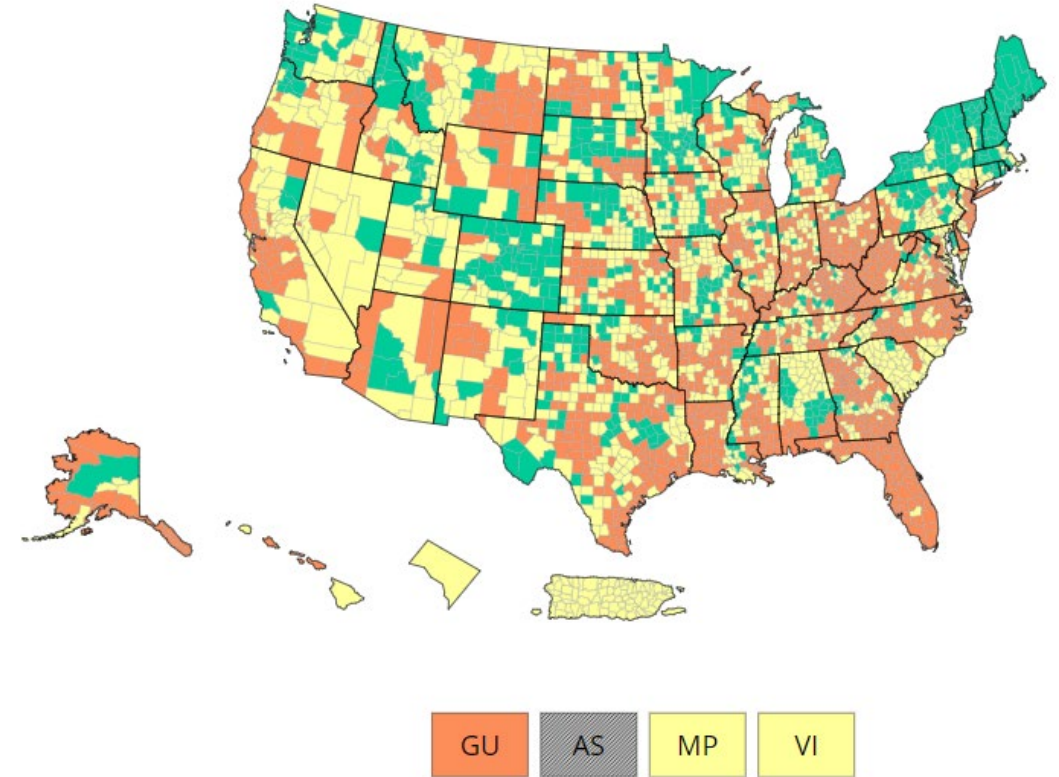
Our World
in Data

LINEAR LOG



Source: Johns Hopkins University CSSE COVID-19 Data

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Globally, 584,690,631 cases and 6,418,454 deaths (Data* through 8/8/2022)

- Case rates for Europe are showing steady signs of declines

United States: Reported cases (7-day average) have decreased 7.3% since the prior week[†]

- In the U.S., the case rate is 242.1 cases/100,000 in last 7 days (last week: 264.3 cases per/100,000)

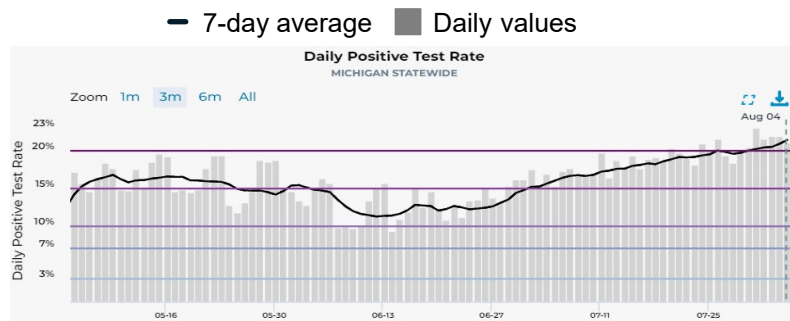
Region 5 (Midwest) states are either increasing or plateaued

- Michigan and Minnesota have the lowest case rates in Region 5 (8/8/2022)

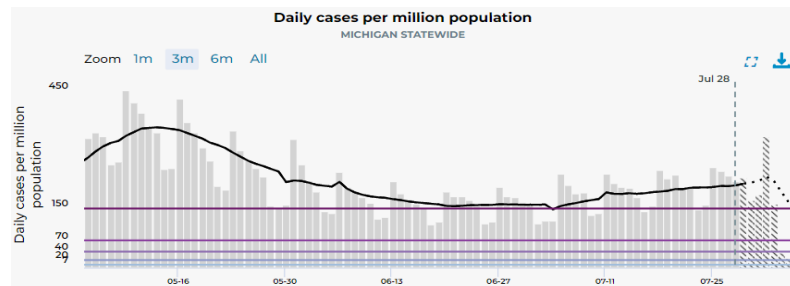
Recent statewide trends are increasing

Statewide trends

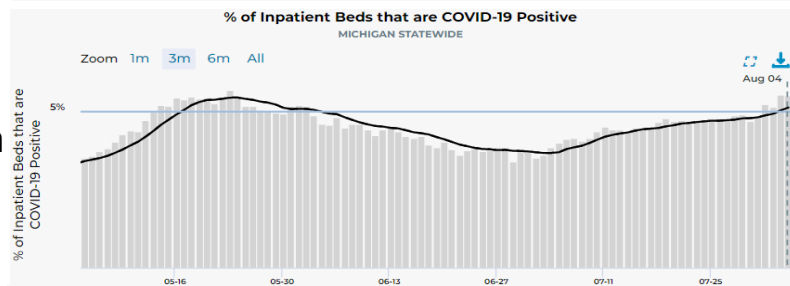
Positivity, %



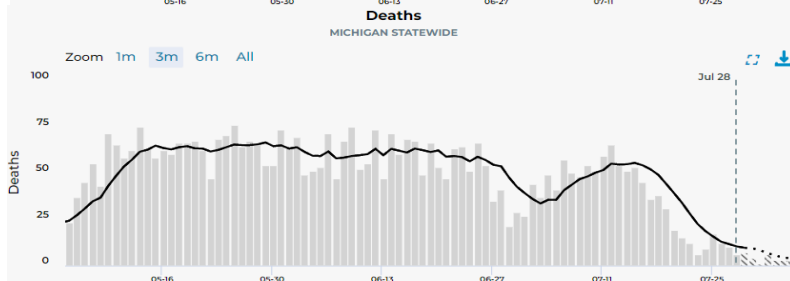
Daily cases per million



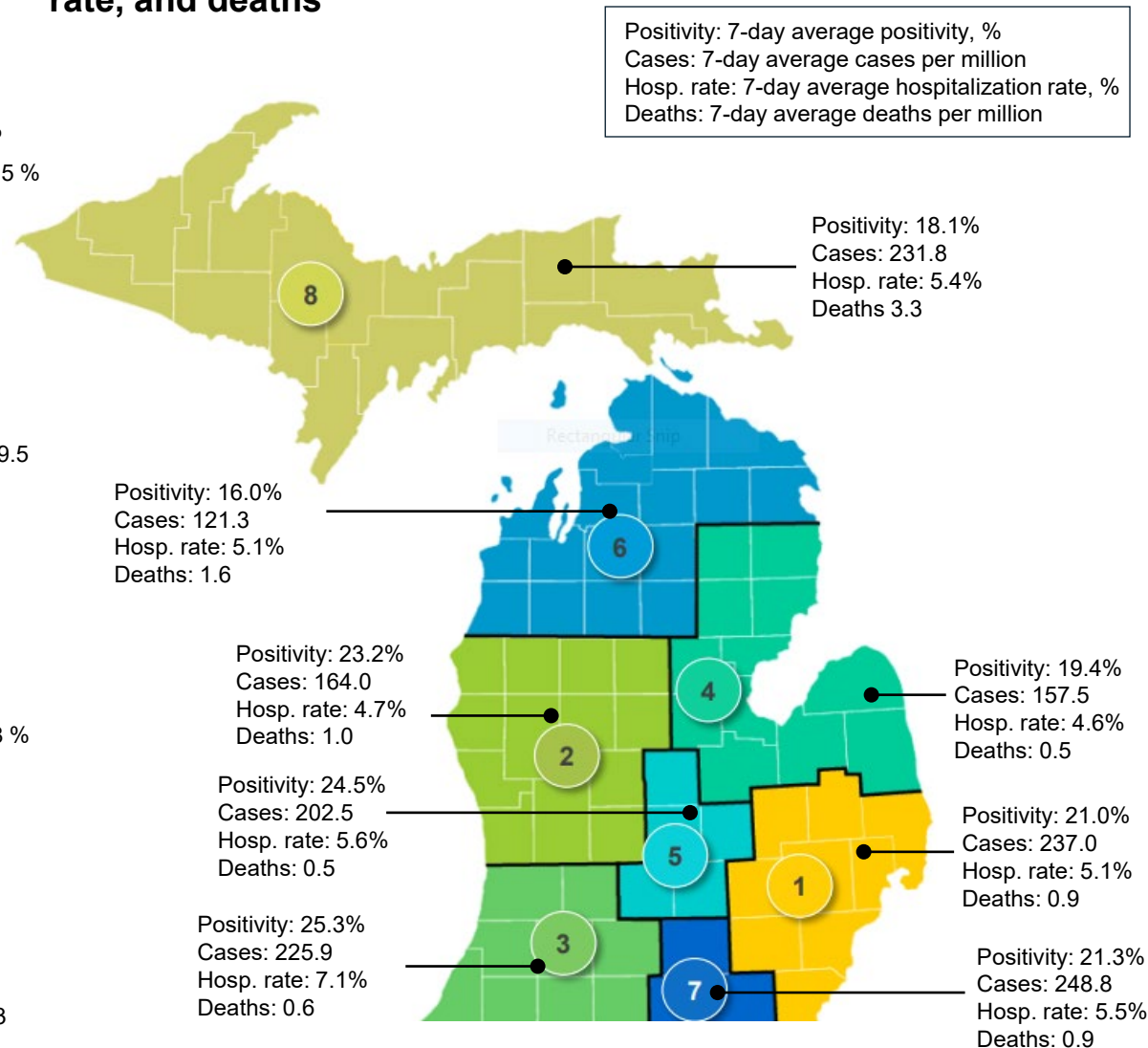
Daily hospitalization rate, %



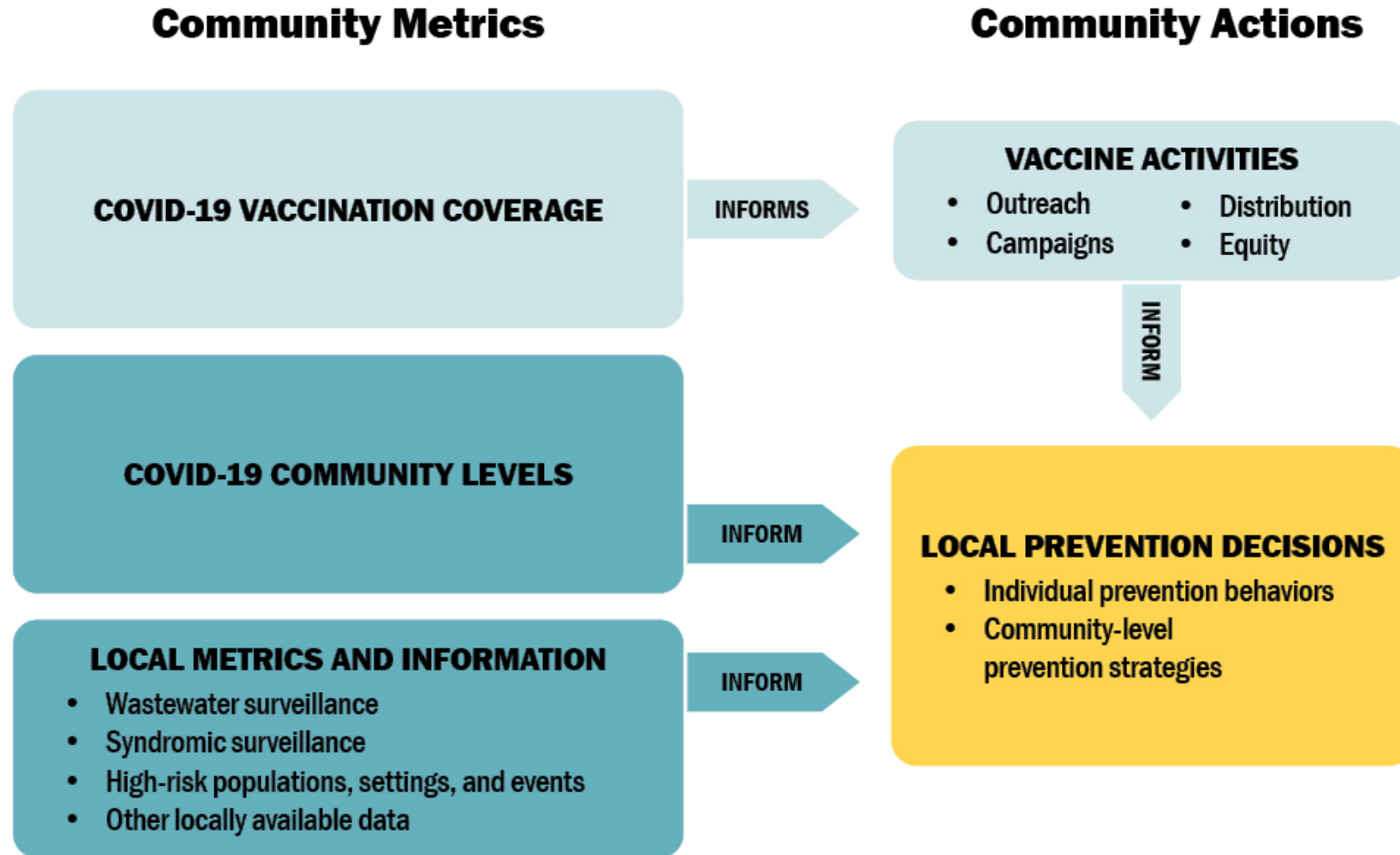
Deaths



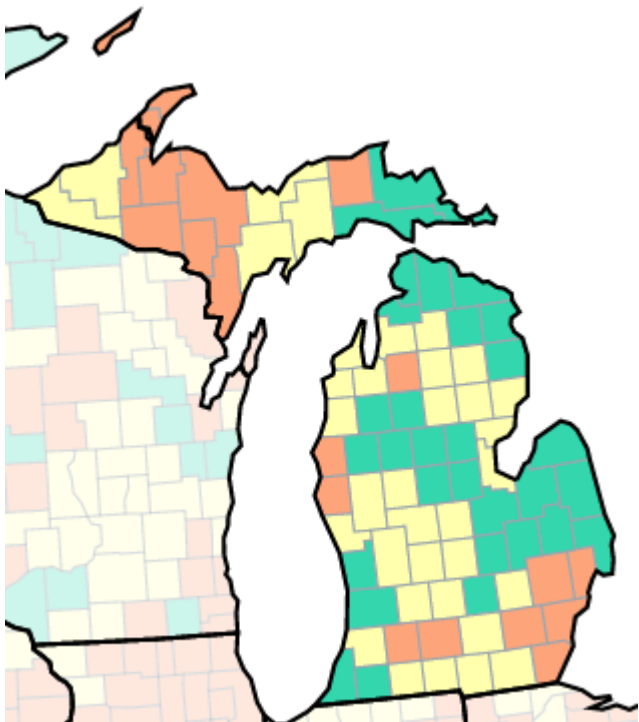
MERC Regional breakdown: Positivity, cases, hospitalization rate, and deaths



Local Prevention Decisions Should Use Community Levels in Concert with Other Pandemic Indicators



As of August 4, 18 Michigan Counties at High COVID-19 Community Level



- In the US, 42% of counties have high risk for medically significant disease and healthcare strain
- In Michigan, 22% (18/83) of counties are at high risk. This represents 51% of the population
- 35 Michigan counties are currently at Medium level (42%). This represents 25% of the population
- 30 Michigan counties are currently at Low level (36%). This represents 24% of the population

Percent of Counties

	United States	Michigan	Percent of MI Population
Low	19%	36%	24%
Medium	39%	42%	25%
High	42%	22%	51%

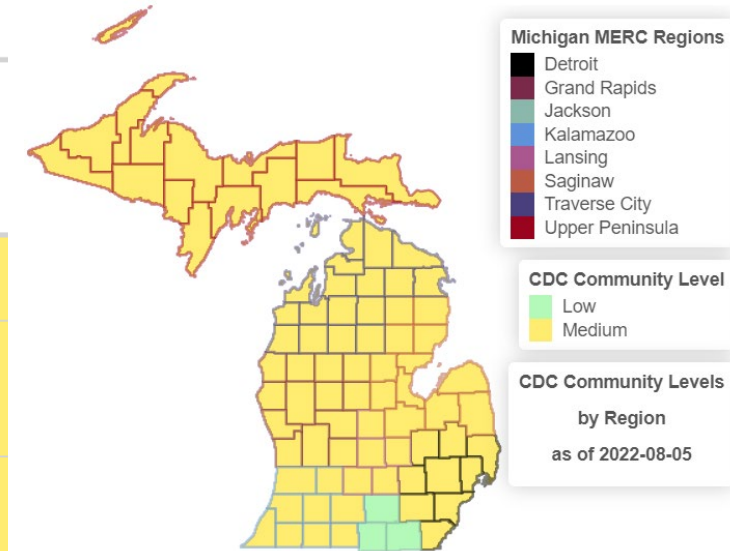
Low	Medium	High
<ul style="list-style-type: none">• Stay <u>up to date</u> with COVID-19 vaccines• <u>Get tested</u> if you have symptoms	<ul style="list-style-type: none">• If you are <u>at high risk for severe illness</u>, talk to your healthcare provider about whether you need to wear a mask and take other precautions• Stay <u>up to date</u> with COVID-19 vaccines• <u>Get tested</u> if you have symptoms	<ul style="list-style-type: none">• Wear a <u>mask</u> indoors in public• Stay <u>up to date</u> with COVID-19 vaccines• <u>Get tested</u> if you have symptoms• Additional precautions may be needed for people <u>at high risk for severe illness</u>

CDC Community Levels

Michigan Region & State as of 2022-08-05

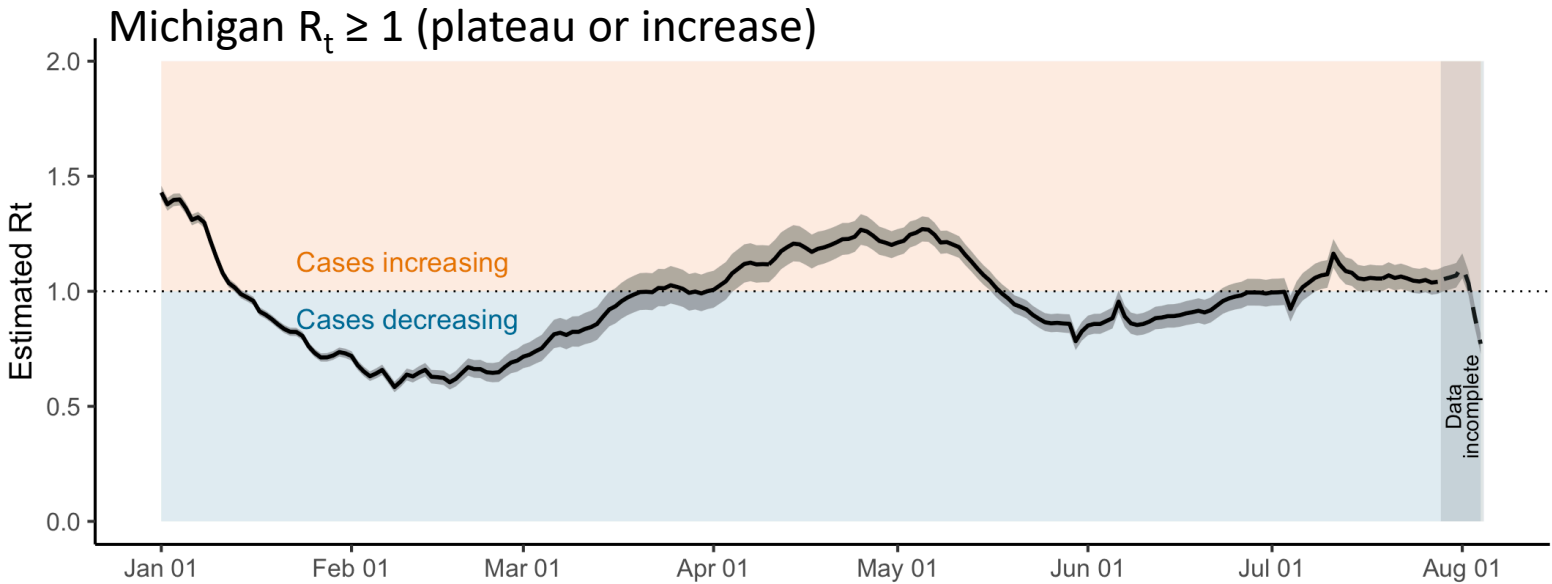
		New COVID-19 Cases per 100K in previous 7 days	Percent Inpatient Beds Occupied by COVID-19 Patients (7-day Avg.)	New COVID-19 Hospital Admissions per 100K in previous 7 days	CDC Community Level
1	Detroit Region	137.6	4.5%	12.3	Medium
2	Grand Rapids Region	88.3	4.5%	10.4	Medium
3	Kalamazoo Region	126.5	6.4%	10.8	Medium
4	Saginaw Region	100.3	4.1%	10.9	Medium
5	Lansing Region	133.3	4.9%	10.7	Medium
6	Traverse City Region	72.8	4.9%	15.1	Medium
7	Jackson Region	164.6	4.3%	7.6	Low
8	Upper Peninsula Region	130.5	5.2%	14.7	Medium
9	State	125.4	4.6%	11.7	Medium

CDC Methodology is followed, though only state available data is applied.

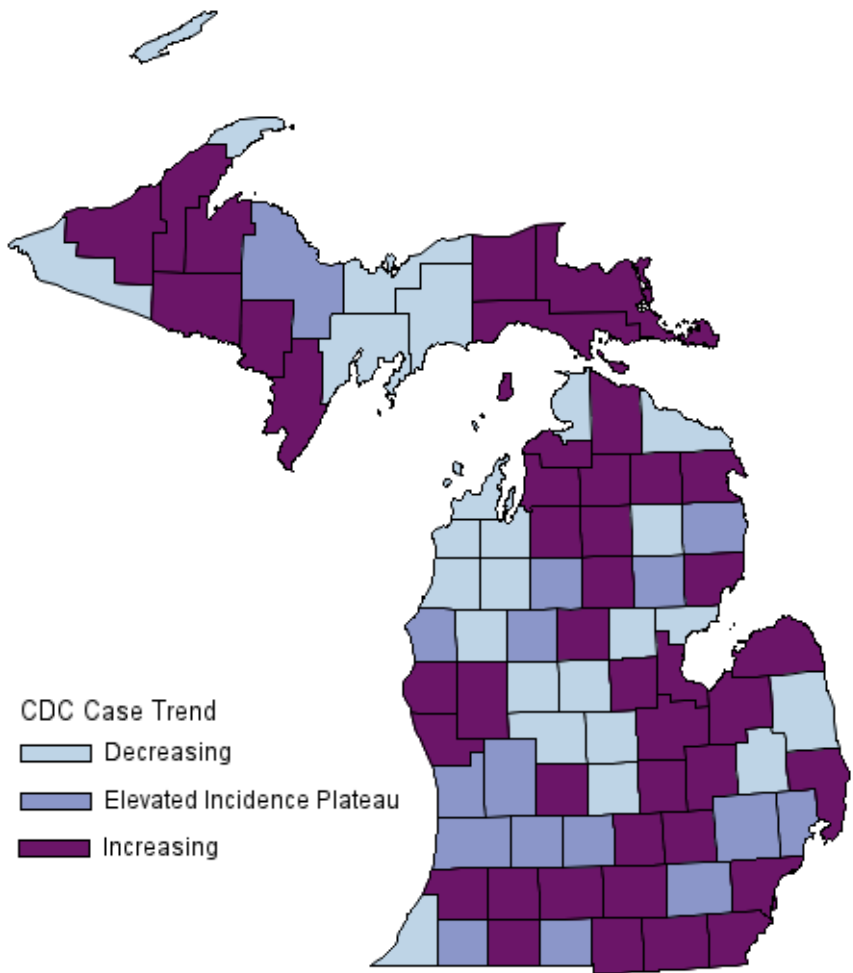
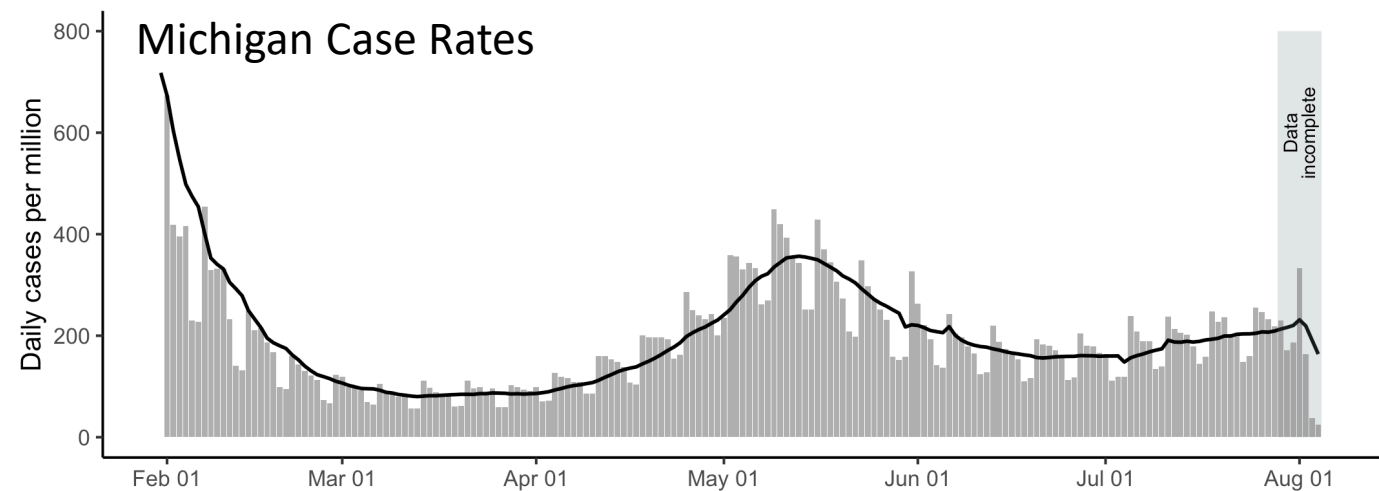


- County differences can shift week over week
- Smaller counties are more susceptible to greater shifts in COVID community levels
- Regional levels, when taking into account other COVID metrics, may help locals determine the impact of COVID-19 on communities and what actions to take

Cases are increasing in Michigan

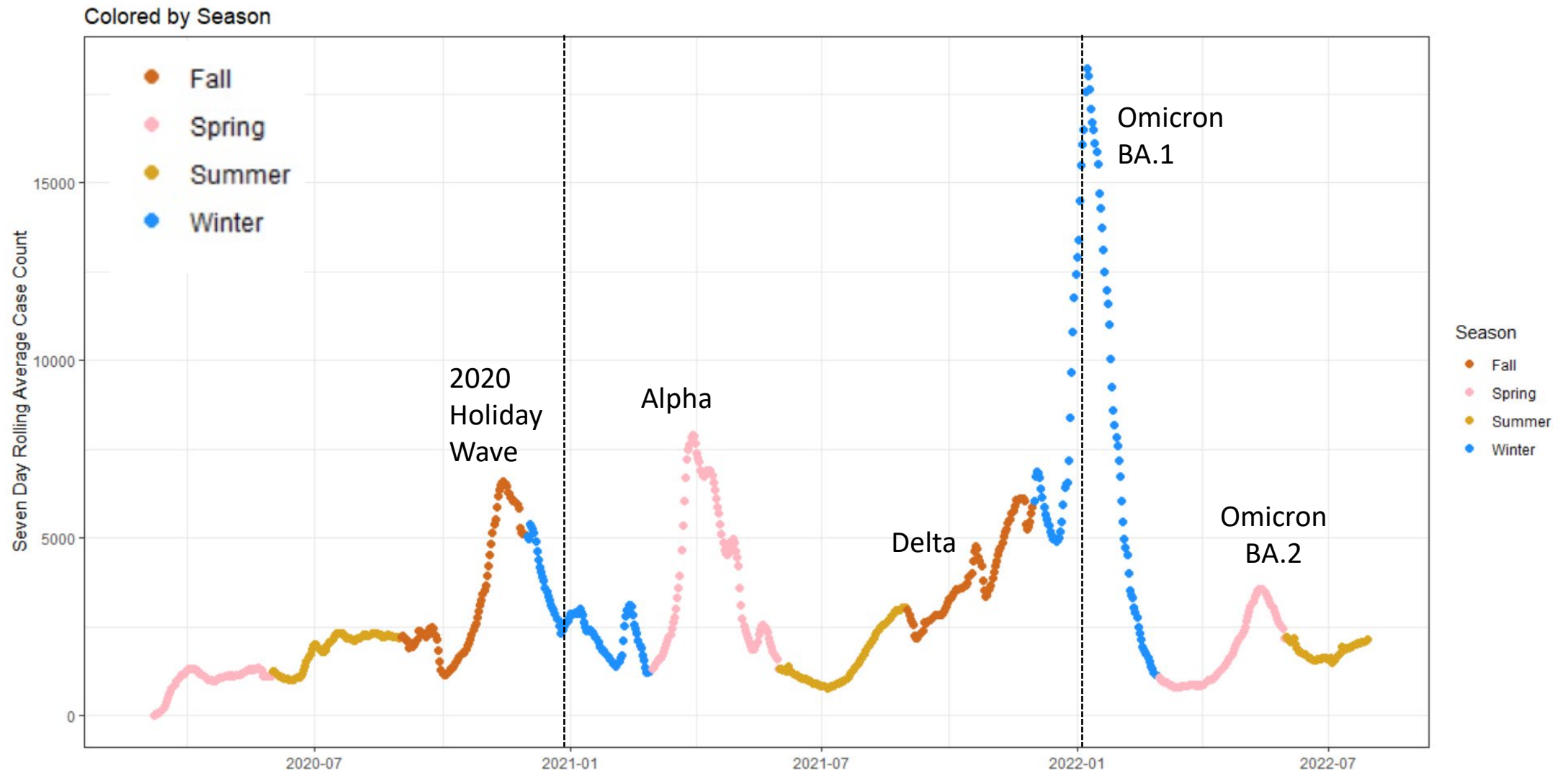


43 counties currently showing increases and 16 in elevated incidence plateaus (via mistartmap.info as of 8/5/22, data through 7/29/22).



Sources: MDSS cases plotted by onset date as of 8/5/22.

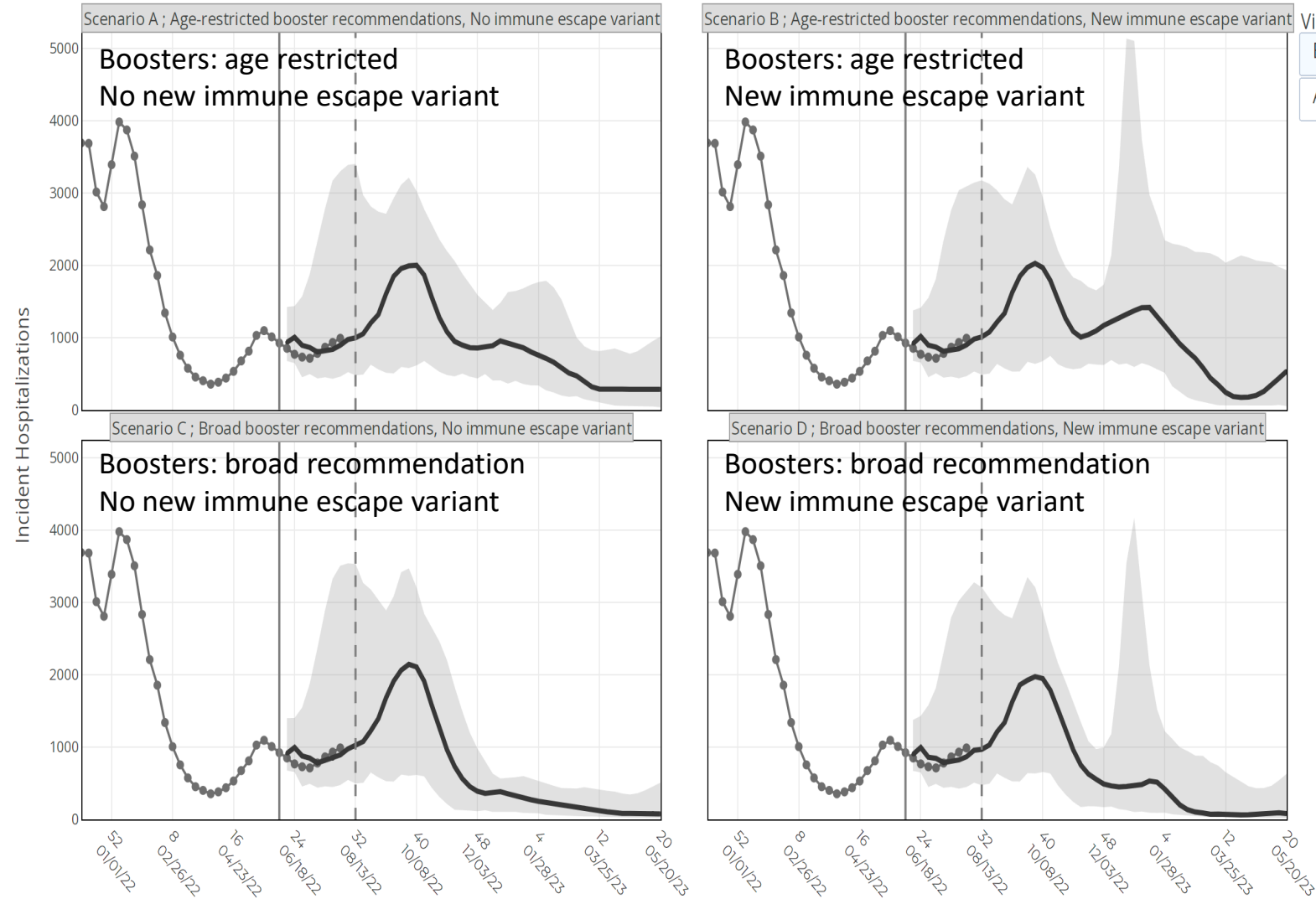
How have past surges played out? 2020 and 2021 have seen both plateaus and increases in late summer/fall



Scenario Hub projections suggest summer/fall surge + potential winter surge in cases, hospitalizations, deaths

- Summer/fall: uncertainty range includes either plateau or surge
- Winter
 - If no new immune escape variant, suggests plateau through winter (left two plots)
 - If new variant, potential for winter surge as well (right two plots)
- Similar patterns for cases and deaths (see link below)

Projected hospitalizations under four booster and variant scenarios

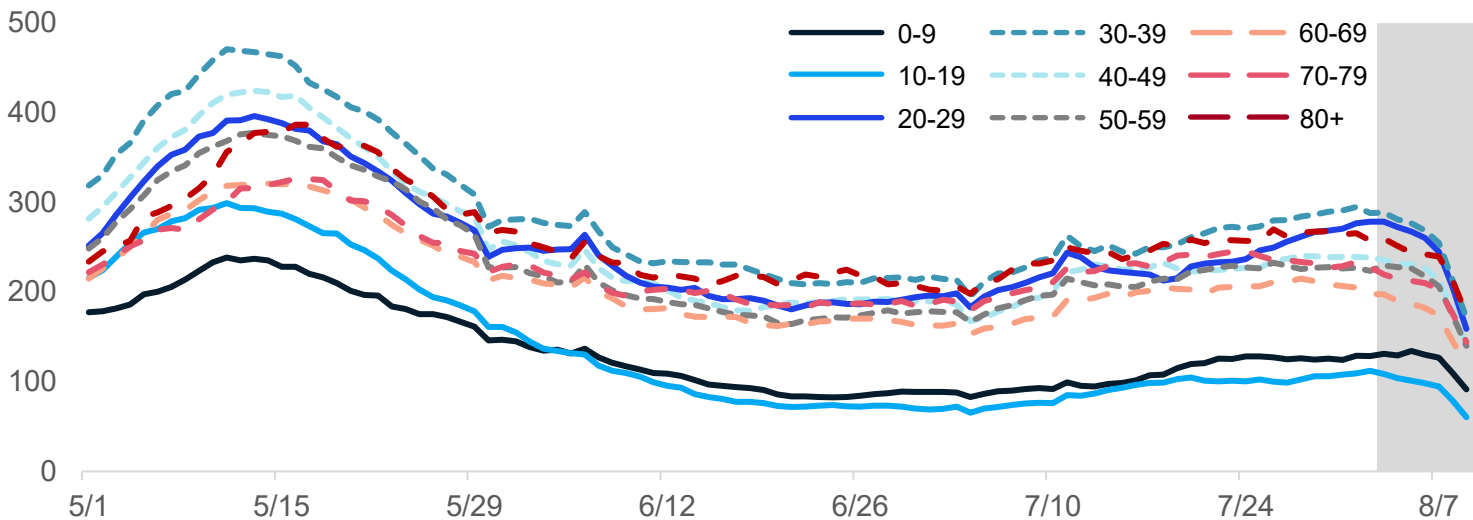


Plotted with 50% uncertainty interval

Source: [Round 14 Scenario Modeling Hub Projections](#)

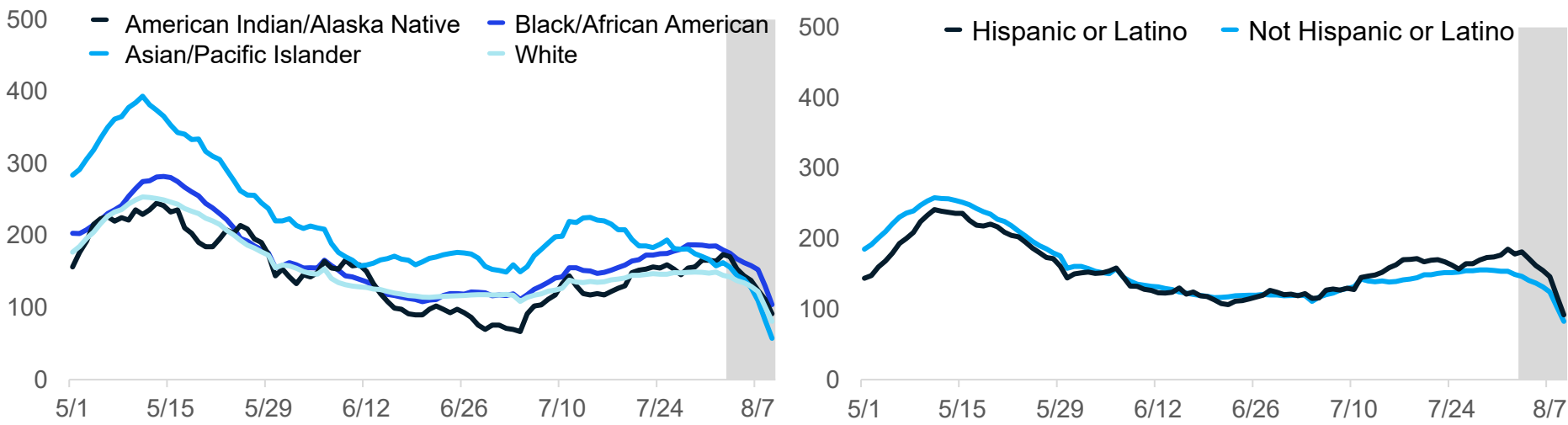
Case rates by age, race, and ethnicity are increasing

Daily new confirmed and probable cases per million by age group (7-day rolling average)



- Case rates by onset date for all age groups are between 112.0 and 288.2 cases per million (through 8/2)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 20-29-year-olds and the 80+-year-old age groups

Daily new confirmed and probable cases per million (7 day rolling average) by race & ethnicity category

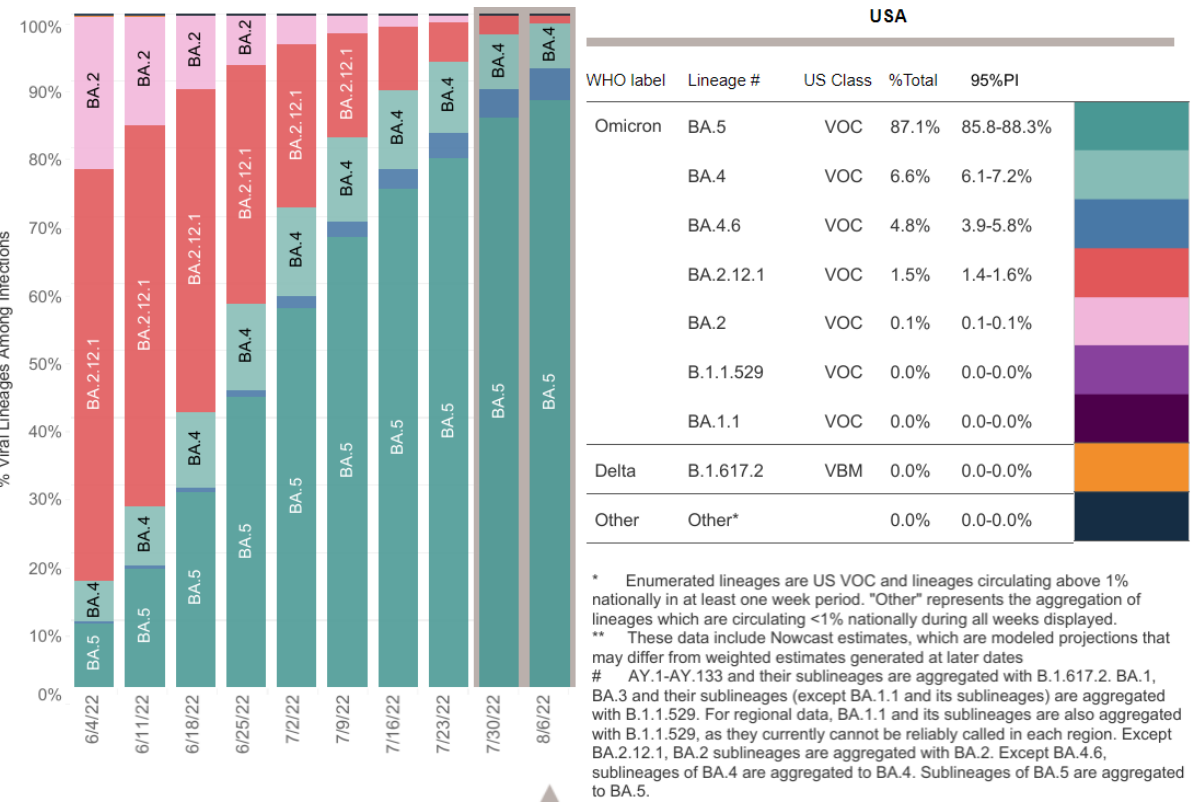


- Case rates are highest for Black populations (180.1 cases/million)
- Between 21-26% of cases in last 30 days have missing race/ethnicity data

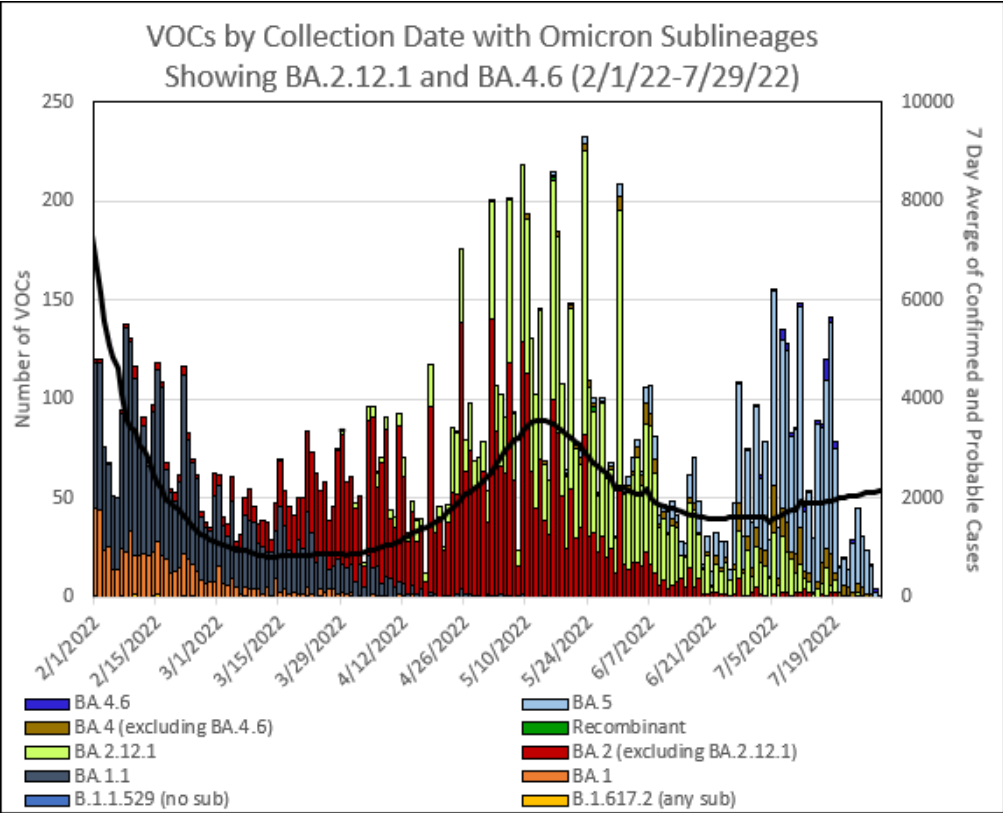
Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System

Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan

SARS-CoV-2 Variants Circulating in the United States, Jun 4 – Aug 6 (NOWCAST)



VOC Distribution in Michigan



- Since July 15, there have 719 VOC specimens sequenced
- 100% of specimens sequenced are Omicron, 80% of those are BA.5 lineage
 - In the most recent week (July 24 - 30), a majority of specimens sequenced are BA.5 (85.3%) but the total number of specimens sequenced and reported remains low (n=122)

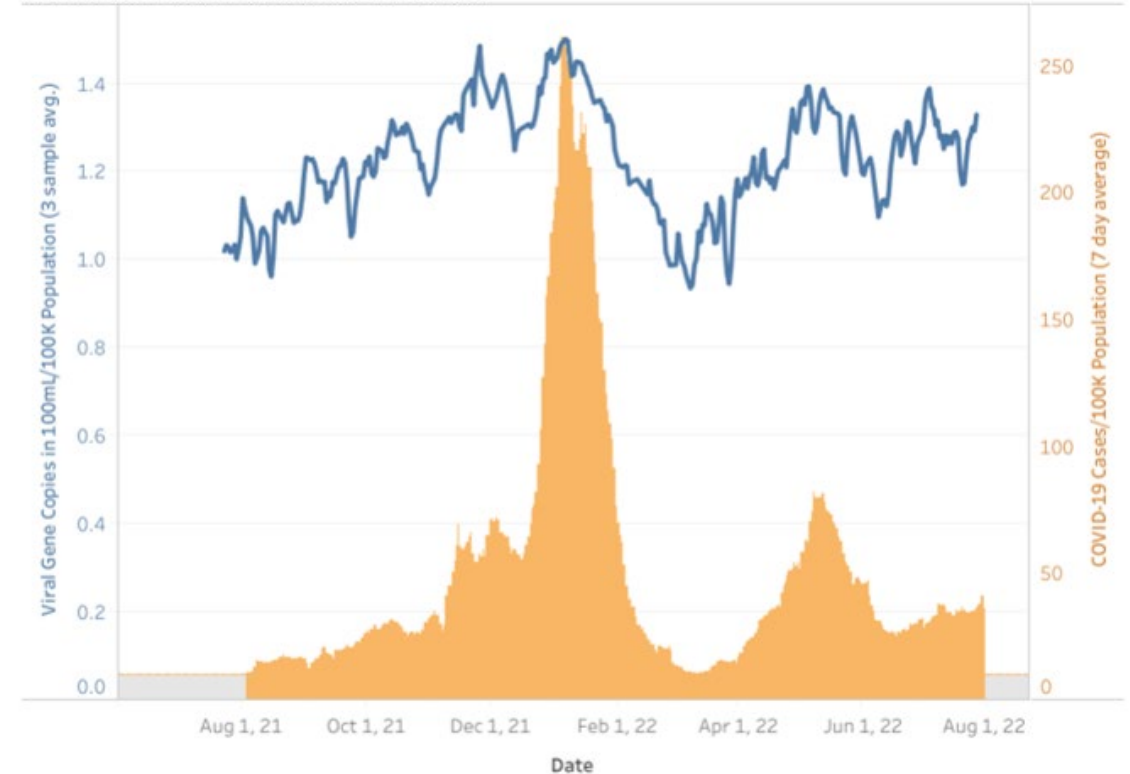
Interpreting Wastewater Should Be In Context with Other Indicators

- When levels of virus in wastewater are low, a modest increase overall in virus level can appear much larger as numbers are translated into percentages
- This does not necessarily mean we will see major increases in transmission in the community
- When increases are seen within one wastewater site, public health officials compare with neighboring communities and other data sources to understand potential of surges
- For example, the Ypsilanti WWTP saw increases in SARS-CoV-2 levels which correlated with increasing presence of Omicron BA.2 lineage and then followed by an increase in cases

Ypsilanti WWTP

The most recent sample concentration is higher than 86% of samples collected at this site, which puts it in the 81-100 percentile category. As of 7/27/2022, the change in viral concentration over the past 15 days is increasing.

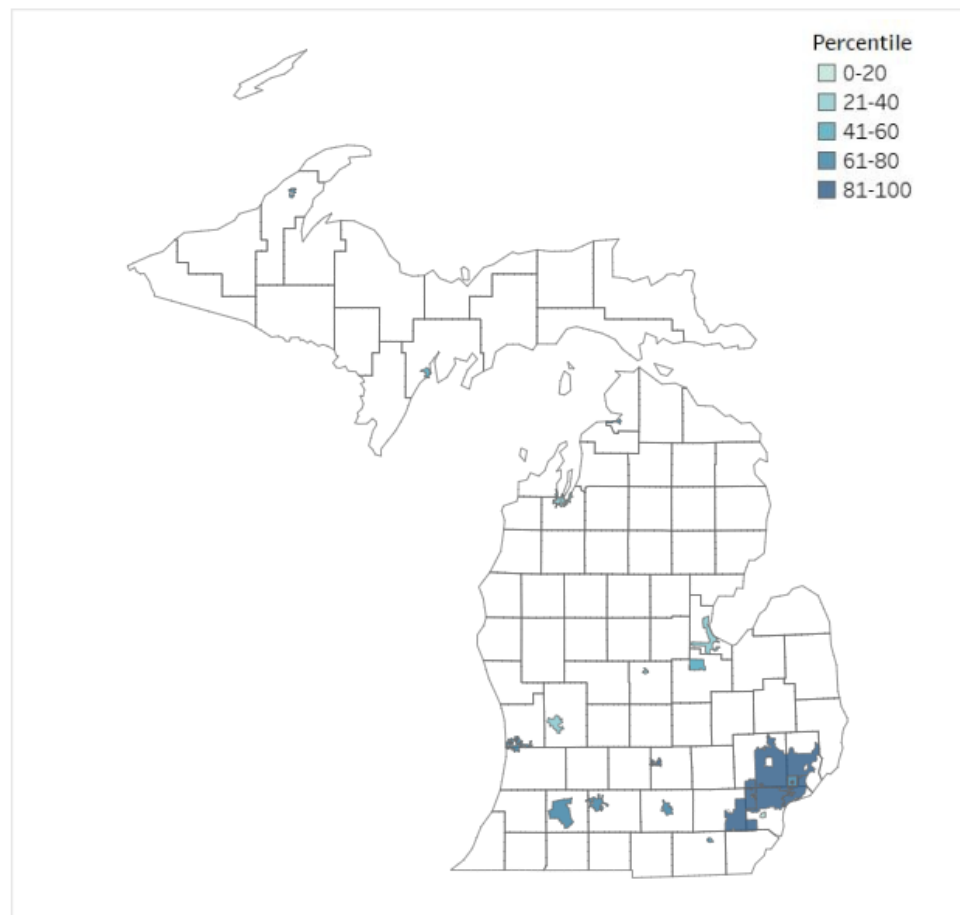
Wastewater SARS-CoV-2 Levels and COVID-19 Cases



The blue line on the graph shows the levels of SARS-CoV-2, the virus that causes COVID-19, in the wastewater samples collected from Ypsilanti WWTP. Each data point is calculated by averaging the number of viral gene copies detected per 100mL of wastewater in the 3 most recent samples. The orange bars on the graph show the COVID-19 cases reported to MDHHS from the zip codes that the wastewater treatment plant serves (7-day average). Both the virus levels and COVID-19 cases are calculated per 100,000 people. Case data will not be shown on the graph when the average number of cases is fewer than 10 per 100,000 people to protect the confidentiality of individuals with infections. This will be represented by an orange dashed line with gray shading below.

Michigan COVID-19 SWEEP Sentinel Wastewater Dashboard

The map below shows 20 sewershed sites in Michigan where wastewater is being monitored for the presence of SARS-CoV-2, the virus that causes COVID-19. These sentinel sites serve as a subset of wastewater surveillance in Michigan distributed across the Michigan Economic Recovery Council (MERC) Regions. Click on each site on the map to see wastewater and clinical case data over time. To view wastewater data from previous weeks, please use the "Map - All Data" and "Trends - All Data" tabs.

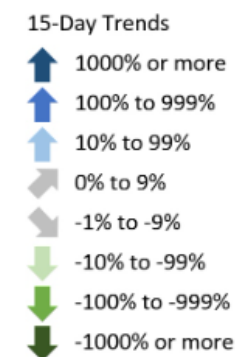


Site	Population	Consecutive Weeks of Virus Detection	Trend As Of	15-Day Trend
Alma WWTP	8976	15	7/25/2022	↓
Battle Creek WWTP	51093	15	7/27/2022	↑
Bay City WWTP	34000	6	7/27/2022	↓
Delhi Township WWTP	22500	17	7/21/2022	↑
Escanaba WWTP	12600	13	7/27/2022	↓
GLWA Detroit River Interce..	492000	92	7/20/2022	↑
GLWA North Interceptor-Ea..	1482000	69	7/20/2022	↑
GLWA Oakwood-Northwest..	840600	92	7/20/2022	↑
Grand Rapids WWTP	265000	51	7/28/2022	↓
Holland WWTP North	45606	15	7/27/2022	↑
Holland WWTP South	36912	17	7/27/2022	↓
Jackson WWTP	90000	54	7/27/2022	↑
Kalamazoo WWTP	150000	18	7/28/2022	↓
Petoskey WWTP	7900	15	7/28/2022	↑
Portage Lake WWTP	14000	46	7/27/2022	↓
Saginaw Township WWTP	40000	16	7/27/2022	↓
Tecumseh WWTP	8680	29	7/29/2022	↑
Traverse City WWTP	45000	20	7/28/2022	↓
Warren WWTP	135000	14	7/21/2022	↑
Ypsilanti WWTP	330000	54	7/27/2022	↑

Abbreviations: GLWA - Great Lakes Water Authority; WWTP - Waste Water Treatment Plant

Definitions and descriptions of data calculations can be found in the "About" tab.

Current results reflect data that were uploaded to MDHHS as of 8/3/2022. Labs are required to report test results to local partners within 24 hours. Data is subject to change as additional wastewater data and case data are received.



SWEEP Summary

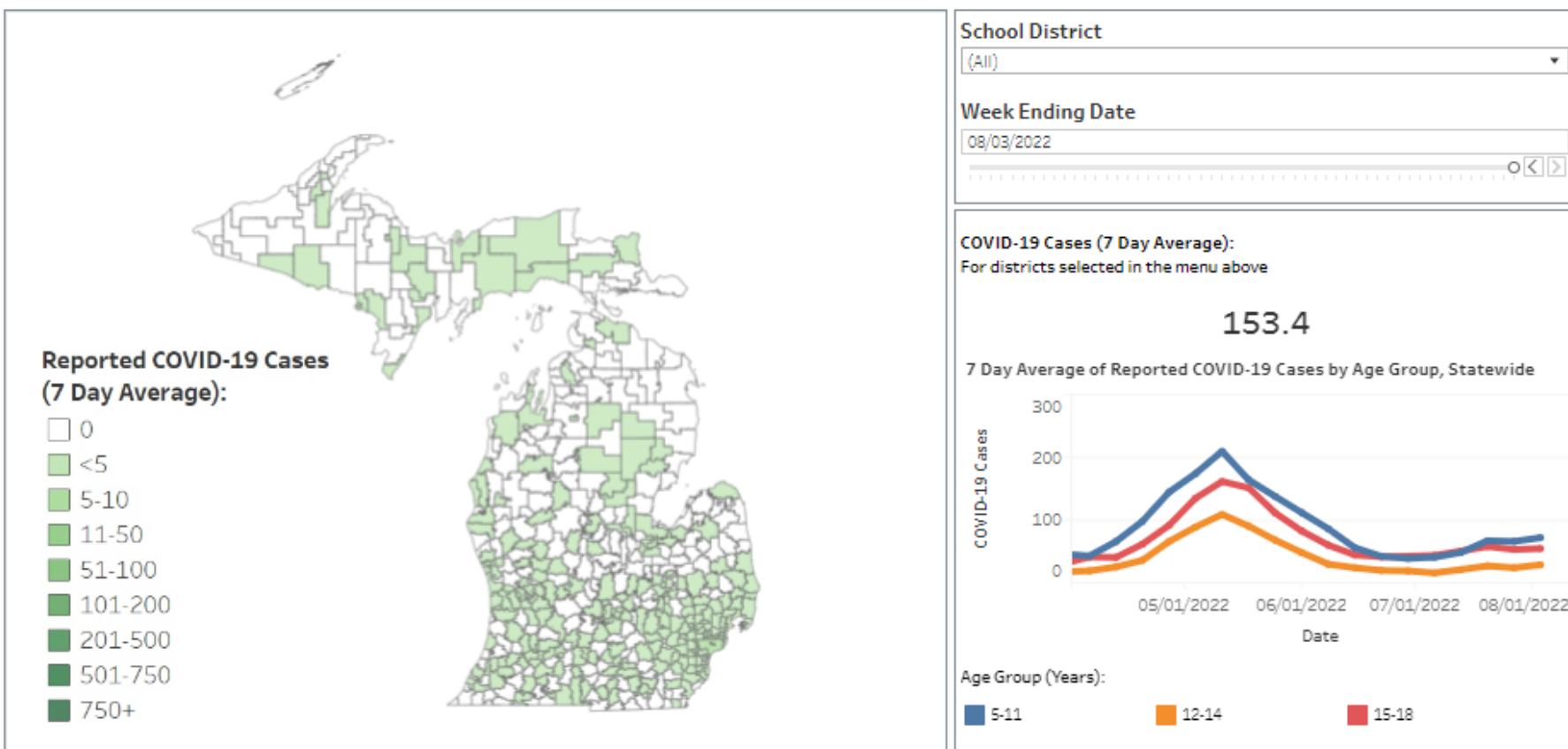
- 45% (9/20) of sentinel sites are showing increasing trends over last 15-days
- 10% (2/20) of sites have plateaued over the last 15 days
- 45% (9/20) of sentinel sites are showing declines in the previous 15-days

COVID case counts among K-12 age individuals have increased slightly

Intermediate School Districts School Districts About

Michigan School District COVID-19 Case Reporting

The map below displays the 7-day average of newly reported COVID-19 cases for school aged residents (ages 5 to 18 years) by their Michigan school district. The geocoding is based on the residential address on record and not the student's enrollment. The 7-day case average for the defined date range can be viewed by hovering over the jurisdiction on the map or by selecting the school district from the drop down list in the right panel. Adjusting the date scale will change the 7-day average on the map for the selected date.



Data Source: Michigan Disease Surveillance System (MDSS)
Last Updated: 8/9/2022

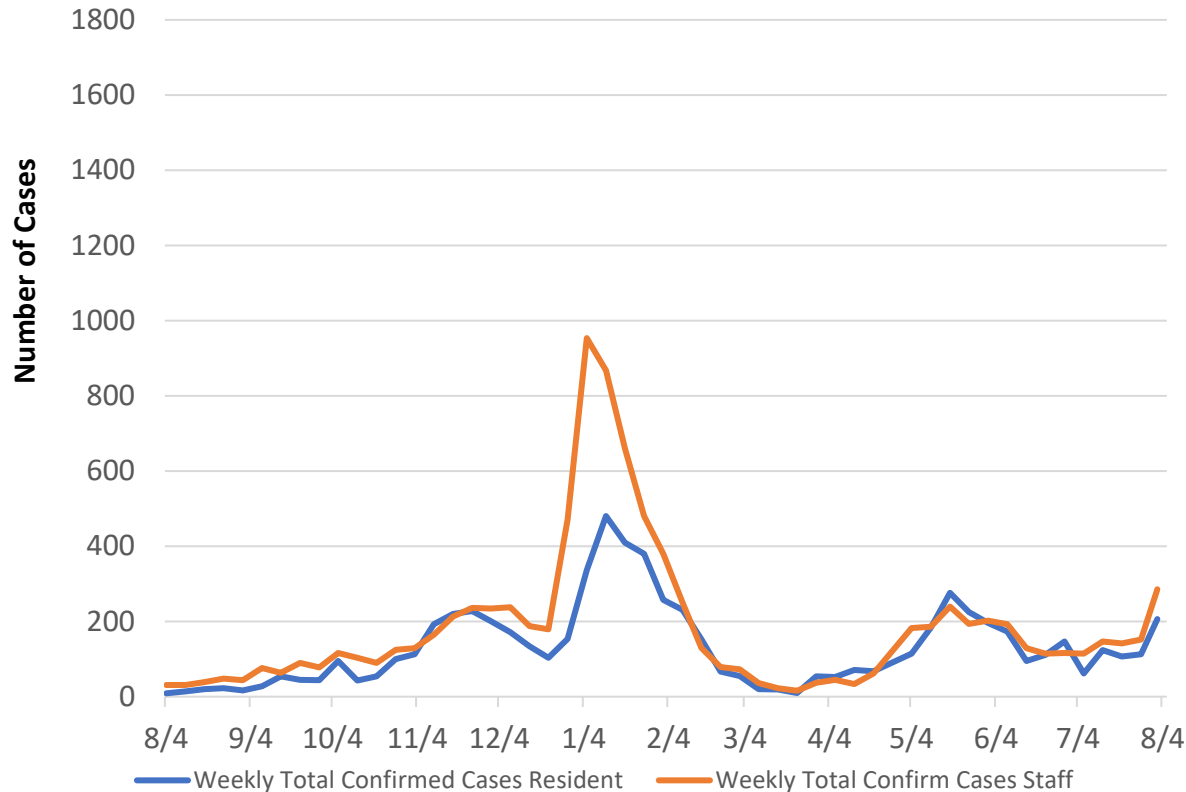
K-12 age population summary:

- Overall case counts among school-aged populations are increasing slowly (7-day average 153.4)
- 46% of school district areas have between 1-5 cases.
- 3 ISD areas in Southeast MI have greater than 10 cases.

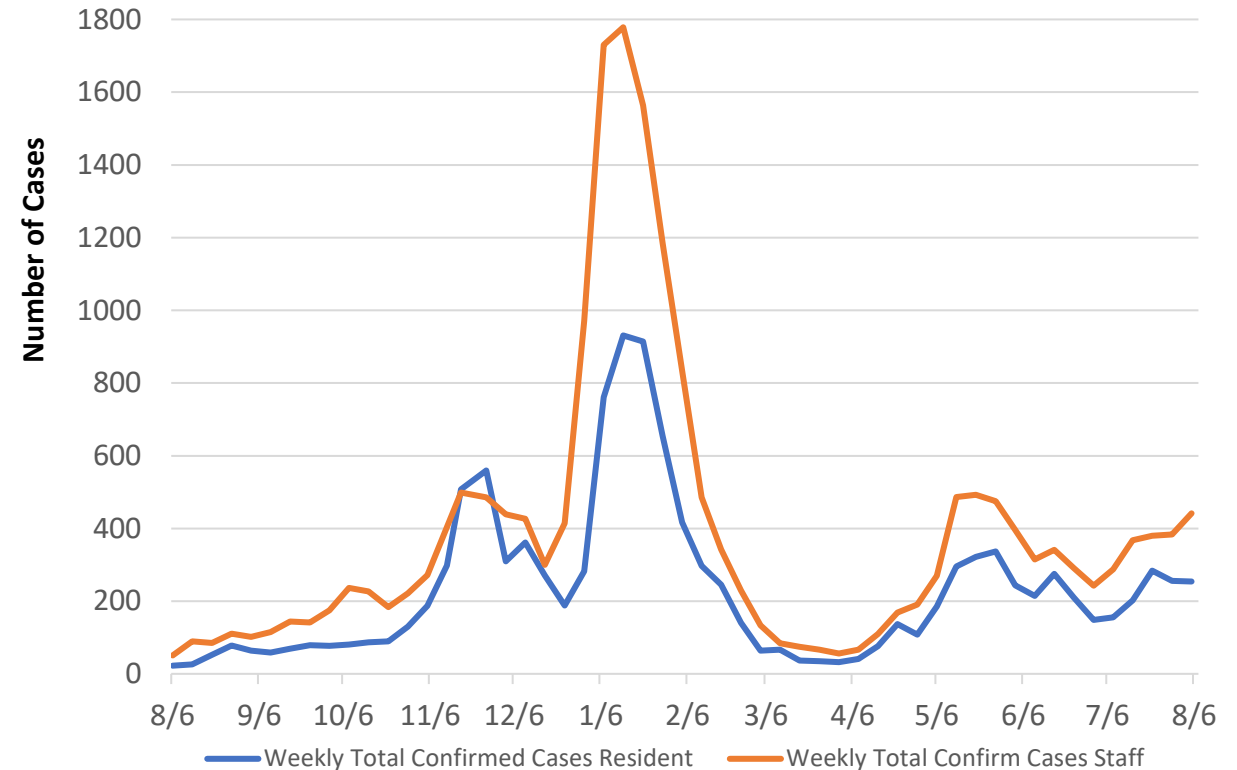
Interactive dashboard and data download can be found at: <https://www.michigan.gov/coronavirus/stats/k-to-12-aged-isd-reporting>

Cases Among Staff and Residents in Long Term Care Facilities

STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN
AFC/HFA RESIDENTS AND STAFF
08/04/2021 TO 08/02/2022



STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN SNF
RESIDENTS AND STAFF
08/06/2021 TO 08/05/2022



- Case counts in residents are increased in AFC/HFA (113 to 207), but remains plateaued in SNFs (256 to 254) since last week
- Case counts in staff increased in both AFC/HFA (152 to 286), and in SNFs (384 to 442) since last week
- **29%** of SNFs are reporting **nursing shortages** and **30%** of SNFs are reporting **aide shortages**, which is stable from last week

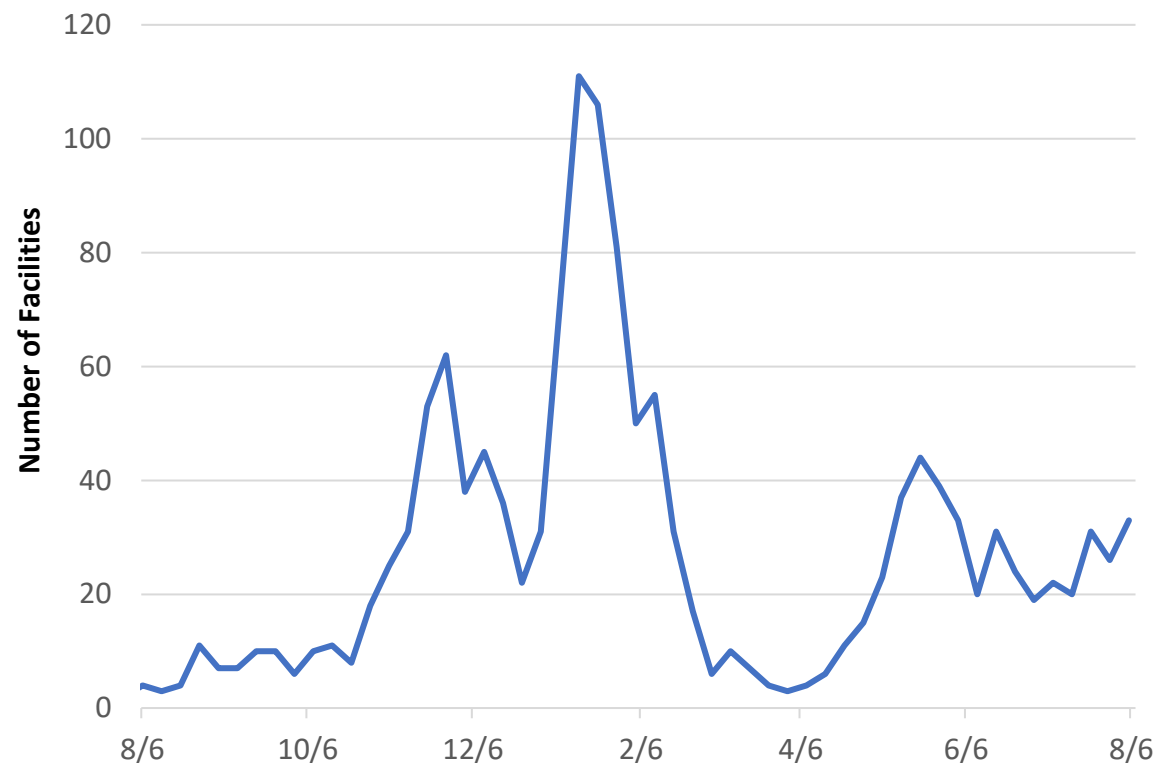
Abbreviations: AFC: Adult Foster Care; HFAs: Homes for the Aged; and SNF: Skilled Nursing Facilities

Reported Number of Outbreaks in Long Term Care Facilities

Number of AFC/HFAs with 3 or more Confirmed Cases



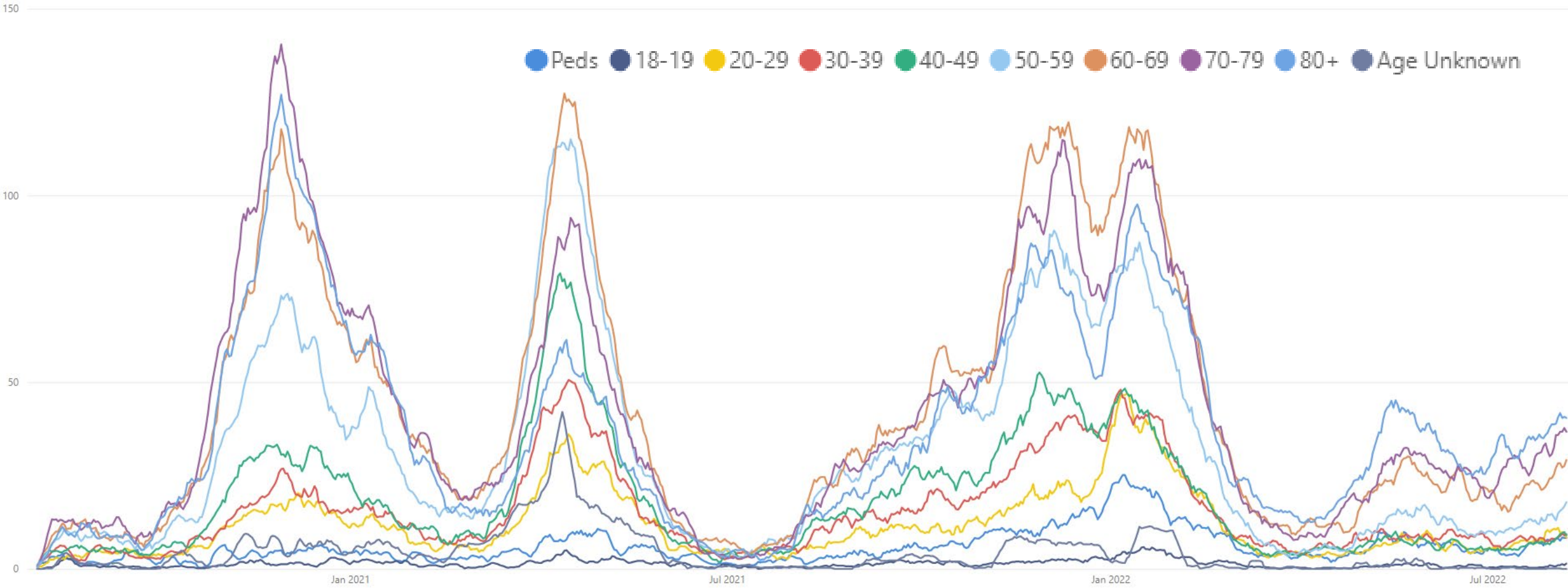
Number of SNFs with 3 or more Confirmed Cases



- The number of Long-Term Care Facilities reporting 3 or more cases within a single reporting period is steadily increasing over the past month
- This week, the number has increased in both **AFC/HFAs** (13 to 22) and in **SNFs** (26 to 33) since the previous week

The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

Hospital admissions due to COVID-19 remain lower than past surges



- Trends for daily average hospital admissions saw an increase (+12%) since last week (vs. +11% prior week)
- Nearly all age groups reported an increase in hospital admissions this week compared to last week
- Those 60-69, 70-79, and 80+ are seeing between 29-40 daily hospital admissions

Hospital Admissions and Admission Rates by Age Group

Daily new hospital admission per million by age group (7-day rolling average)

Age Group	Average [†] daily number of hospital admissions	Average [†] Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	5.9	4.2	-2% (-<1)
12-17	1.9	2.5	+117% (+1)
18-19	1.4	5.4	+43% (+<1)
20-29	8.4	6.1	-18% (-2)
30-39	9.3	7.7	+12% (+1)
40-49	9.0	7.6	+26% (+2)
50-59	17.9	13.2	+24% (+3)
60-69	29.1	22.8	+17% (+4)
70-79	36.7	47.9	+16% (+5)
80+	40.4	97.6	+6% (+2)
Total[¶]	160.0	14.1	+12% (+17)

* Rate per 1 million residents; † Rolling 7-day average; ¶ Total may not reflect state due to missing age data

Note: Hospital Admission data reflects date data was submitted

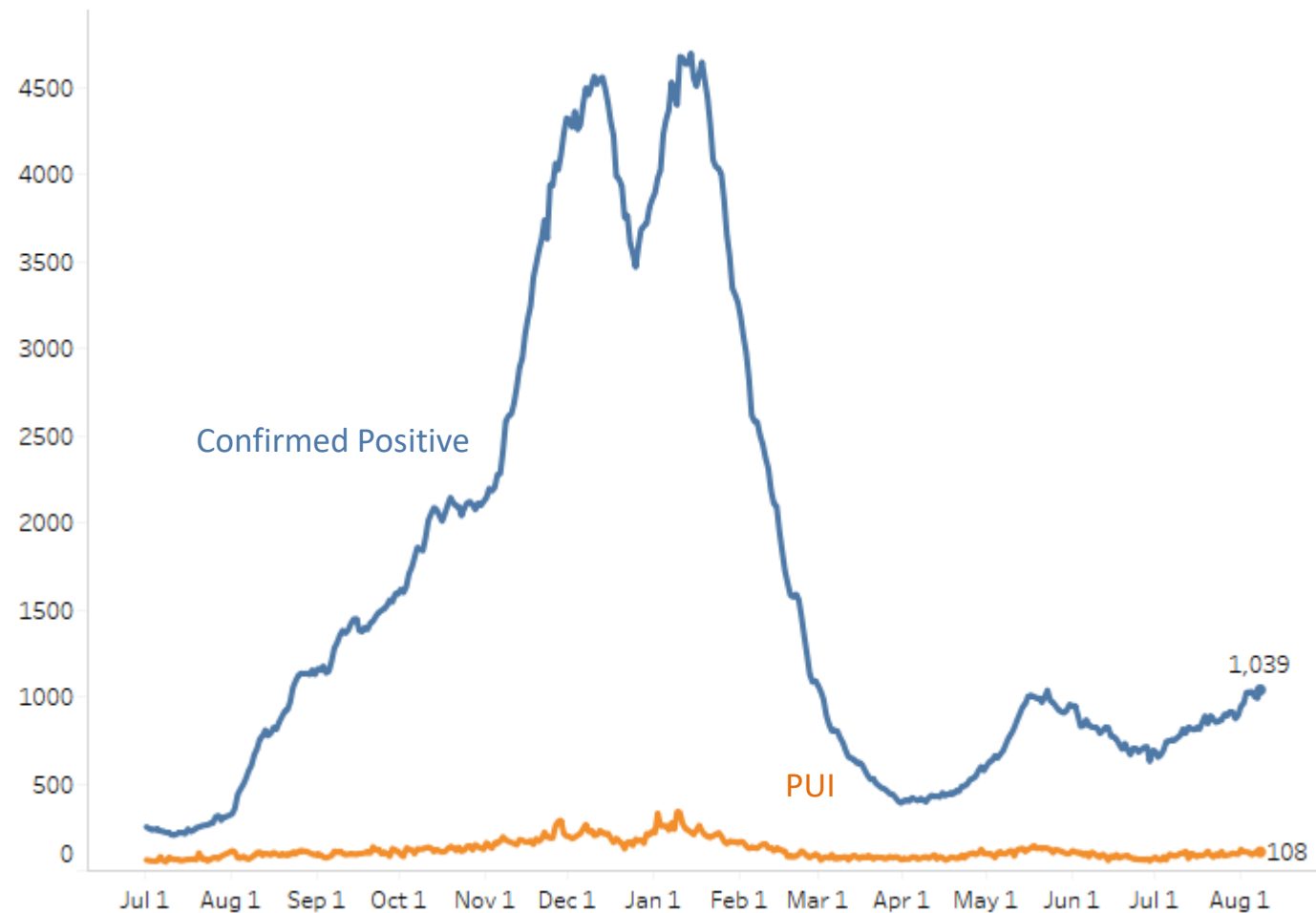
Source: CHECC and EM Resource

- Through August 8, there were an average of 160.0 hospital admissions per day due to COVID-19; an increase from last week (+12%, +17)
- Nearly all age groups saw an increase this week compared to last week
- This week, those between 70 and 79 years (+5/day) saw the greatest daily average increase followed by those 60 to 69 years (+4/day)
- Average daily hospital admission count (40.4 hospital admissions per day) and average daily hospital admission rate (97.6 hospital admissions/million) was highest among those aged 80+
- Those 60-69, 70-79, and 80+ are seeing between 29-40 daily hospital admissions

Note: for some age groups, small changes in number of hospitalization admissions can cause large change in One Week Percent Change

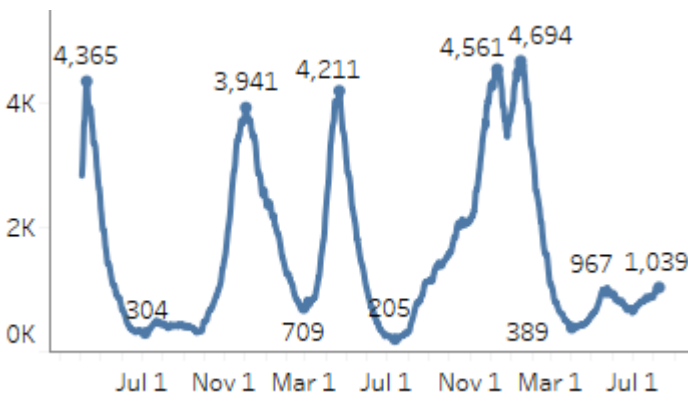
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 7/1/2021 – 8/8/2022
Confirmed Positive & Persons Under Investigation (PUI)



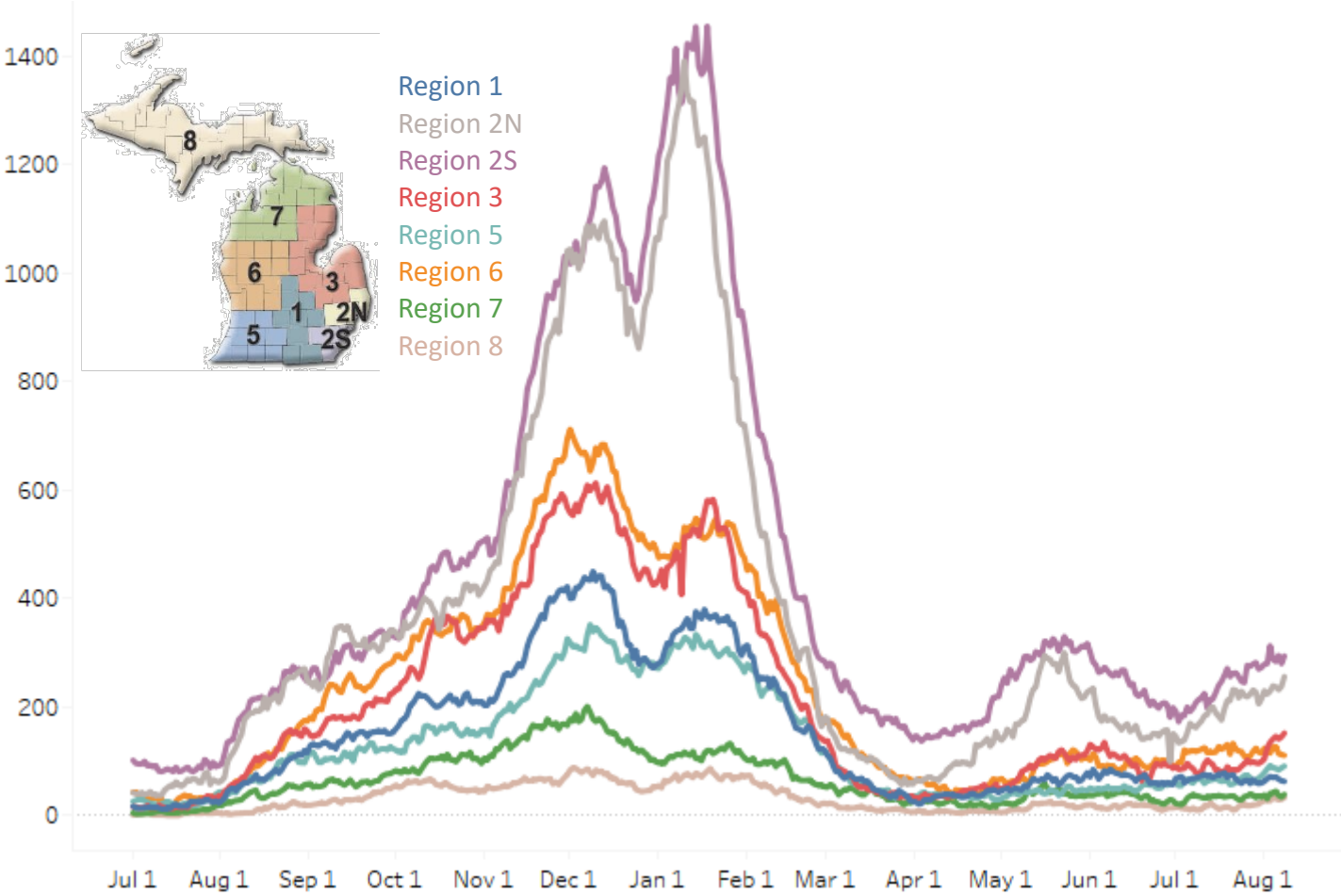
COVID+ census in hospitals has increased by 10% from last week (last week increased 9% from the previous week). Overall census is currently 1039 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 8/8/2022
Confirmed Positive by Region



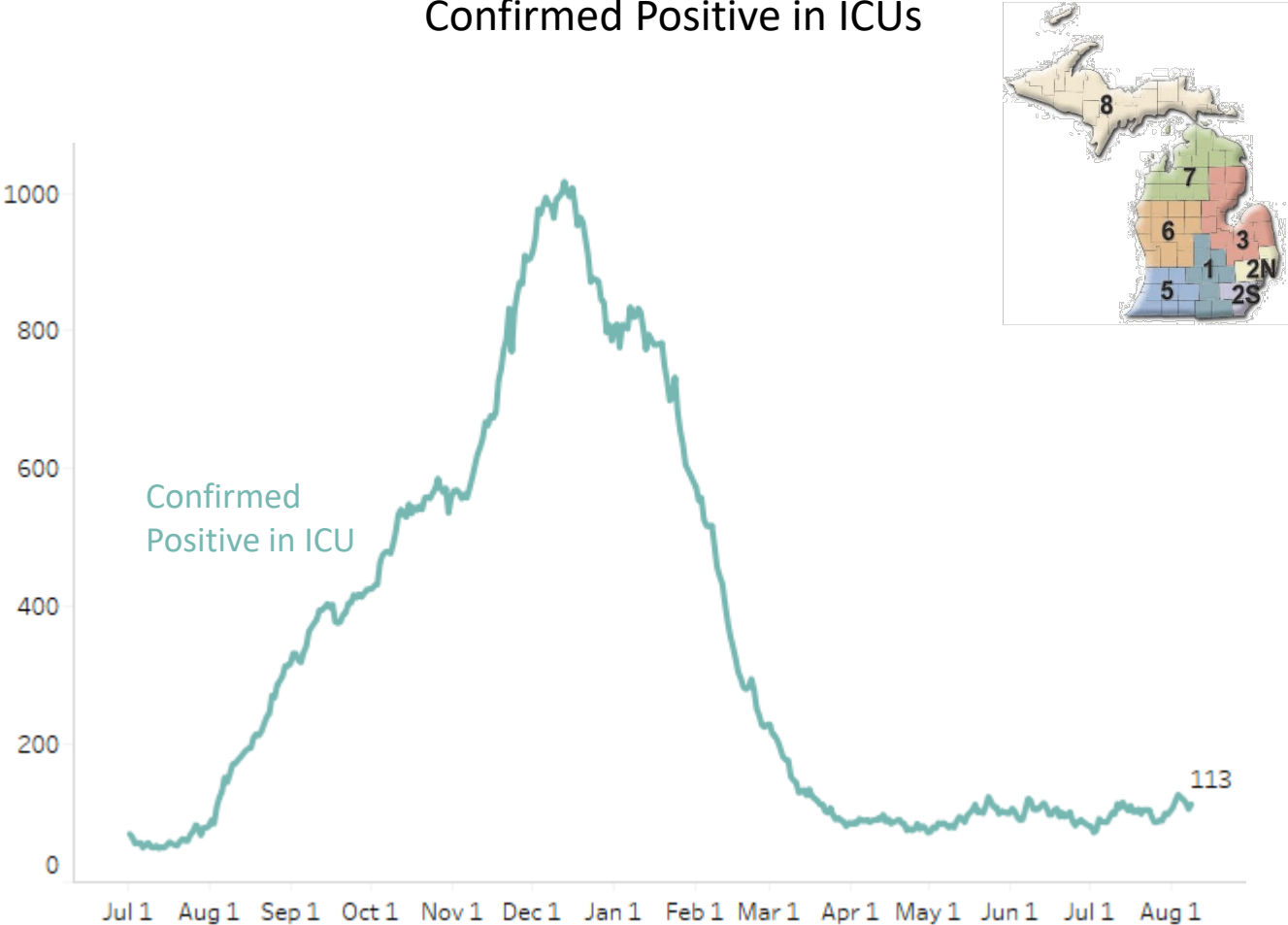
This week hospitalizations have increased in Regions 2N, 2S, 3, 5, 7 and 8. Hospitalizations have decreased or remained flat in Regions 1 and 6.

Regions 2N, 2S, 3, and 8 have greater than 100/Million population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	63 (0%)	58/M
Region 2N	256 (11%)	116/M
Region 2S	294 (5%)	132/M
Region 3	152 (46%)	134/M
Region 5	91 (15%)	95/M
Region 6	111 (-10%)	76/M
Region 7	39 (3%)	78/M
Region 8	33 (18%)	106/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 7/1/2021 – 8/8/2022
Confirmed Positive in ICUs



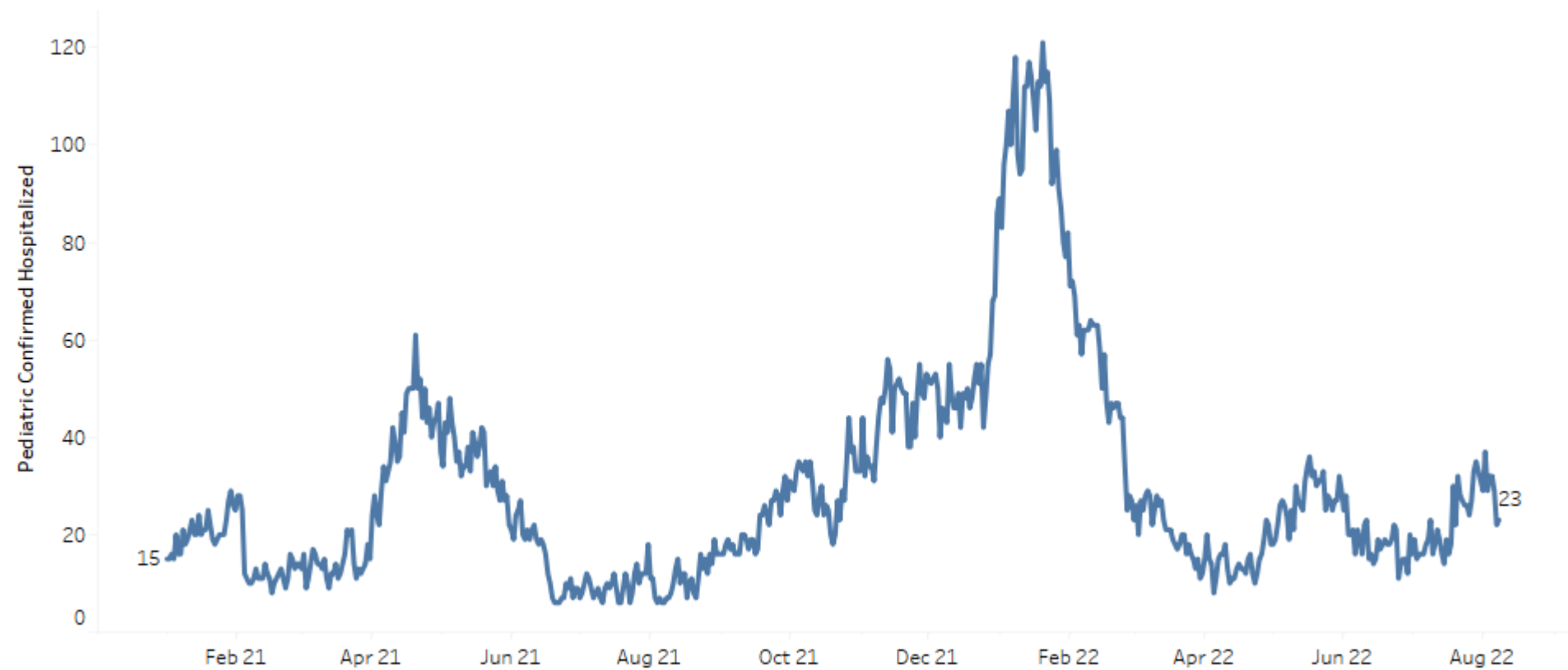
Overall, the volume of COVID+ patients in ICUs has increased by 5% from last week. There are 113 COVID+ patients in ICU beds across the state.

ICU occupancy is at or below 85% in all regions except Region 3. Regions 1, 5, and 7 have more than 5% of ICU beds occupied by COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	12 (71%)	75%	7%
Region 2N	26 (-13%)	67%	5%
Region 2S	27 (-31%)	77%	4%
Region 3	12 (200%)	86%	4%
Region 5	13 (160%)	69%	8%
Region 6	12 (50%)	73%	5%
Region 7	9 (13%)	80%	7%
Region 8	2 (-71%)	56%	3%

Statewide Hospitalization Trends: Pediatric COVID+ Census

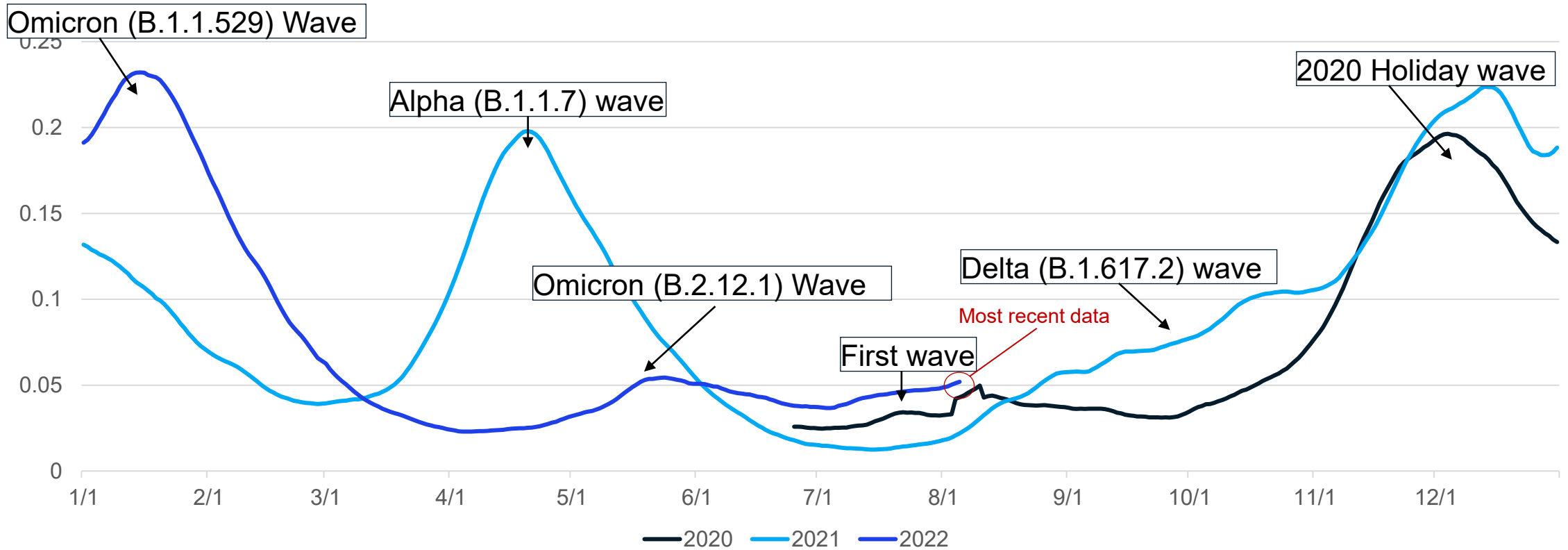
Hospitalization Trends 1/1/2021 – 8/8/2022
Pediatric Hospitalizations, Confirmed



Time Trends – Annual Comparison: Percent Inpatient COVID+

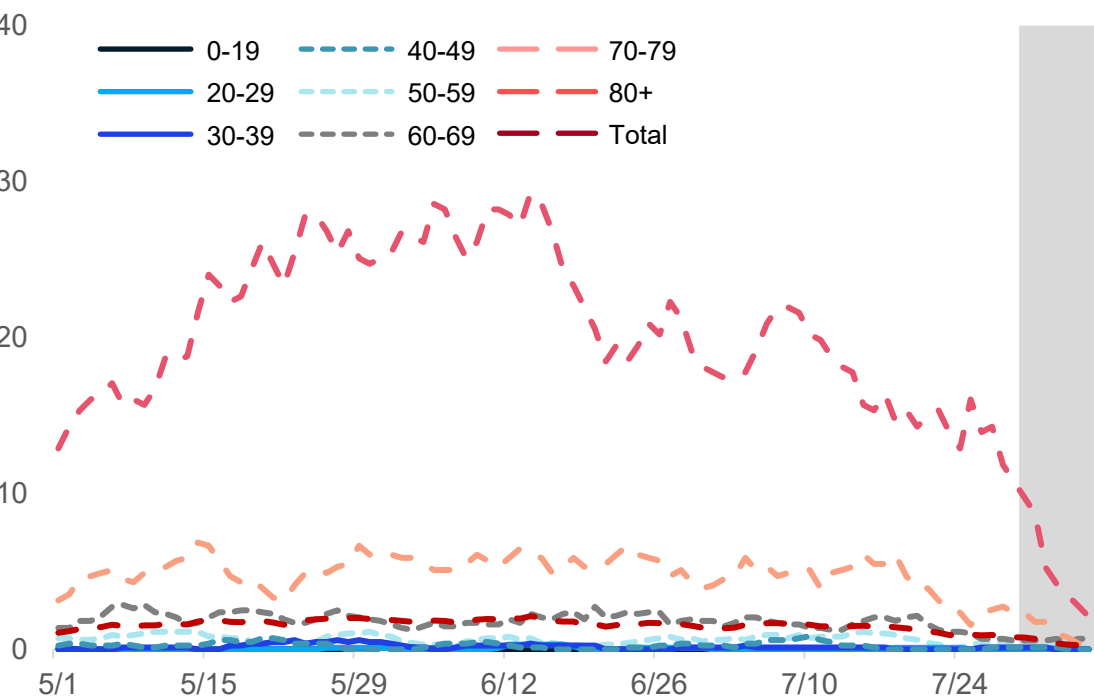
- The percent of inpatients who are COVID+ remains lower than Alpha, Omicron, and holiday wave peaks
- Current hospital levels are higher than last summer's levels as we head into the fall

7-day rolling average of percent of inpatients who are COVID positive



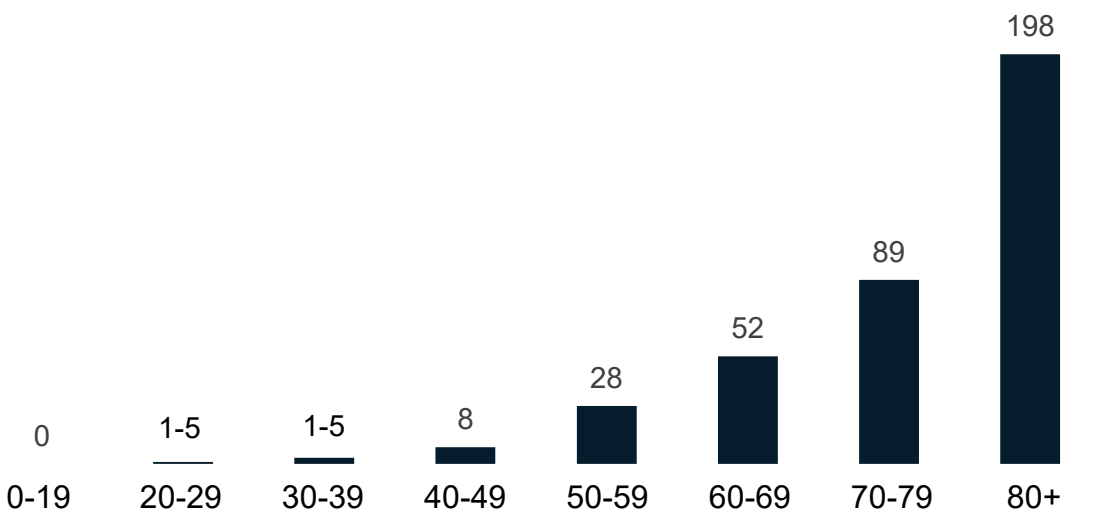
Average new deaths continue to decrease for those over the age of 80

Daily COVID-19 deaths in confirmed and probable cases per million by age group (7 day rolling average)



Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 7/29/2022)

- 10.5% of deaths below age sixty



- Through 7/29, the 7-day avg. death rate has decreased (10.5 deaths per million people) for those over the age of 80
- In the past 30 days, there are fewer than 15 confirmed and probable COVID-19 deaths under the age of 50
- 30-day proportion of deaths among those under 60 years of age is 10.5%.

Harm Reduction: Key Messages

Empowering community members to make best choices for their individual circumstances and to be prepared by making a COVID plan

- Michiganders can take advantage of local, state, and national COVID-19 resources
- Get tested, and if positive, seek care with therapeutics (e.g., antibodies or antiviral medications)
 - Cumulative therapeutic availability and administration is increasing since end of June
 - Talk to your doctor or pharmacist about whether you should get antibody or antiviral treatment, and where you can find treatment
 - Therapeutics are authorized for people who meet select criteria
 - Additional public health, regulatory, and policy efforts might help decrease barriers to oral antiviral access, particularly in communities with high social vulnerability
- Vaccinations remain the best way to protect from COVID-19, especially from severe disease
 - COVID-19 vaccines are now available for ages 6 months and up
 - Everyone 6 months and older should also get an age-appropriate COVID-19 booster, when eligible
 - Data tracker now includes Novavax administration
 - Over 6.7 million Michiganders have received at least one dose (67.7%)
 - 55.7% of fully vaccinated Michiganders have received at least one booster
 - 29.8% of people in Michigan (644K+) with a first booster dose have received a second booster dose

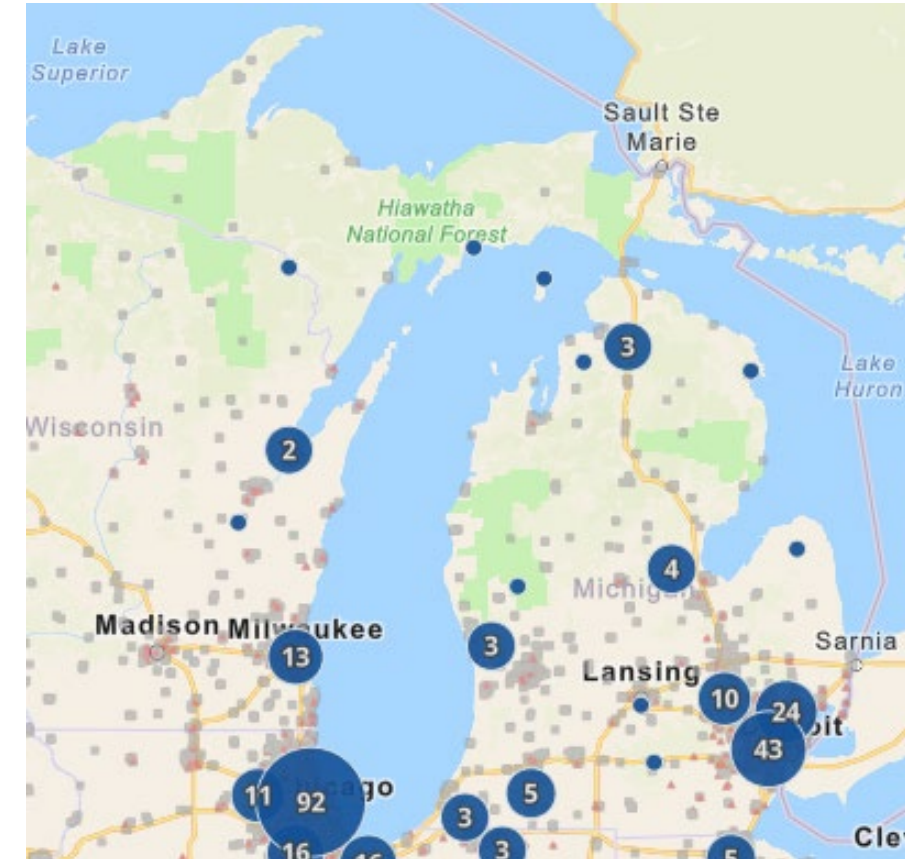
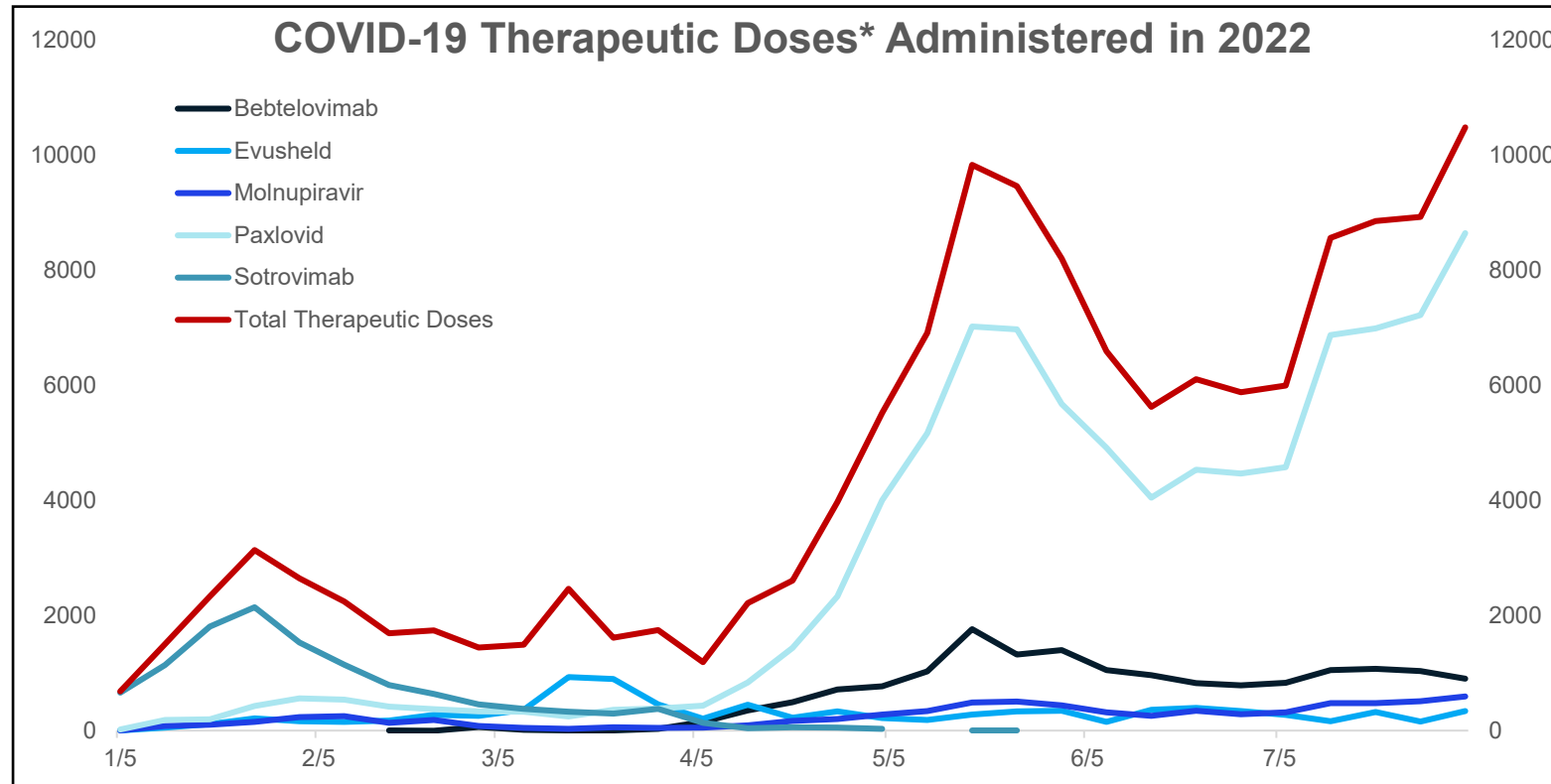
Federal & Michigan websites assist COVID positive residents find treatment

COVID-19 resources available on federal website: [COVID.gov](https://www.covid.gov)

Test-to-Treat program simplifies access to COVID treatment:

[Find a Test-to-Treat location near you](#)

- If you have COVID-19 symptoms, do not wait to get treated
- You must take oral COVID-19 medication within 5 days of your first COVID-19 symptoms
- Use the tool to find a location that is right for you



Source: Screen capture of Michigan Test-to-Treat sites from linked website

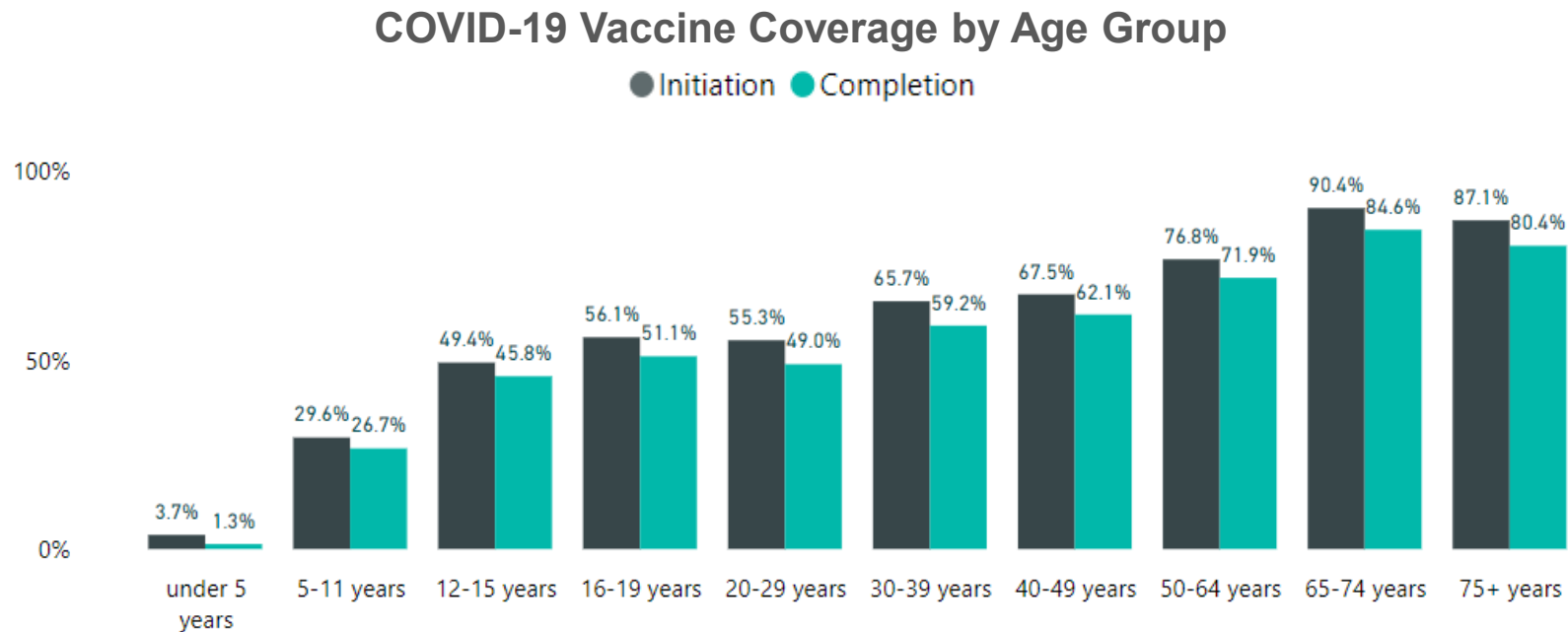
Therapeutic administration increased during Michigan's Spring Omicron surge. Supply limitations in January 2022 required strategic distribution and should not be compared directly.

Source: HHS – Tiberius

*Data is reported as a single patient course, except for Evusheld, which is reported as the number of 300mg doses administered. Data Updated August 5

Vaccinations and Boosters

- Over 16.4 million COVID-19 vaccine doses have been administered in Michigan
 - Over 6.7 million Michiganders have received at least one dose (67.7%)
 - Over 6 million Michiganders have completed a primary series (60.8%)
 - Over 3.3 million additional/booster doses have been administered in Michigan
 - 55.7% of the fully vaccinated population has received a booster
 - 77.6% of the fully vaccinated population 65 years of age or older has received a booster
- Nearly 644,547 Michiganders 50 years of age or older who have received a first booster dose have received second booster (29.8%)



Note: Cumulative data and population percentages now include those ages 6 months and older

Sources: Michigan Coronavirus Vaccine Dashboard; CDC COVID-19 Data Tracker: Vaccine Coverage Dashboard

Additional Doses and Booster Coverage

COVID Vaccination - Booster Coverage by County

Dashboard Updated: August 3, 2022. People who are 5 and up age and are fully vaccinated 5 months past in case of mRNA vaccines and 2 months past in case of J&J vaccines are eligible to get a Booster dose.

County: All

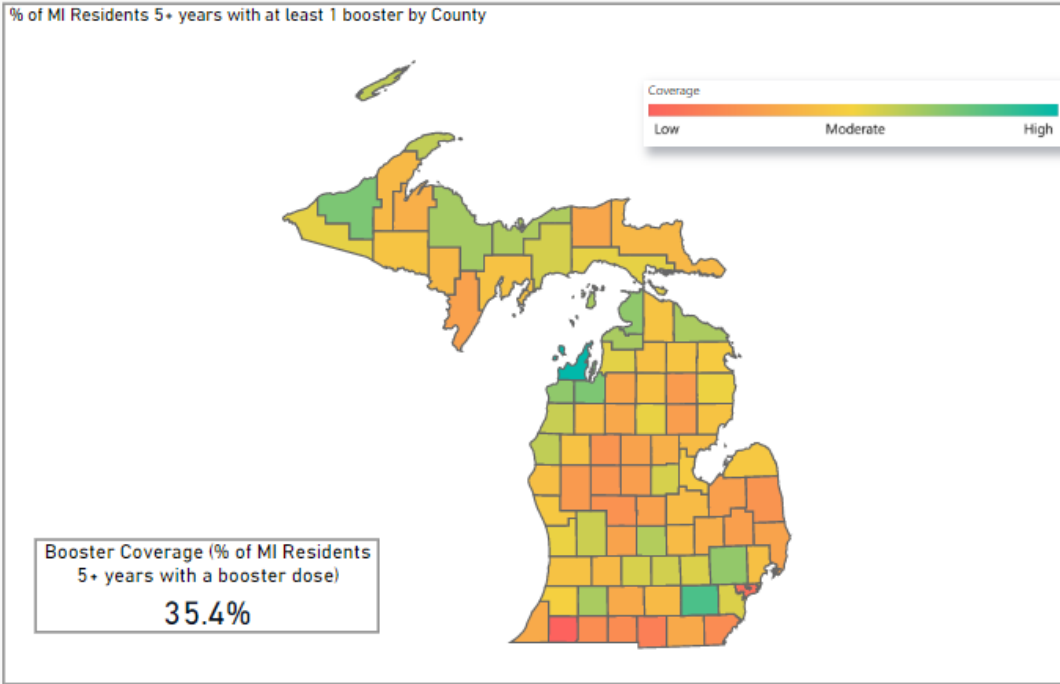
Age Group: All

Ethnicity Race: All

Residents Boosted: 3,329,984

Fully Vaccinated*: 5,741,579

MI Residents 5+ years: 9,415,365



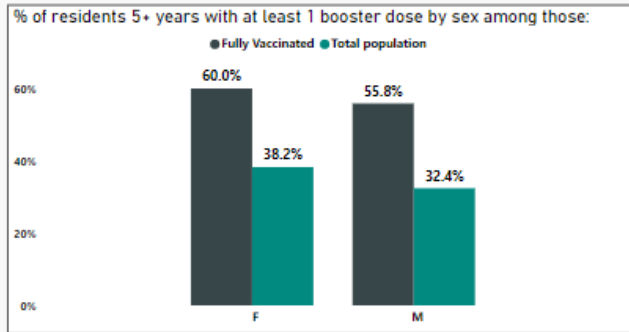
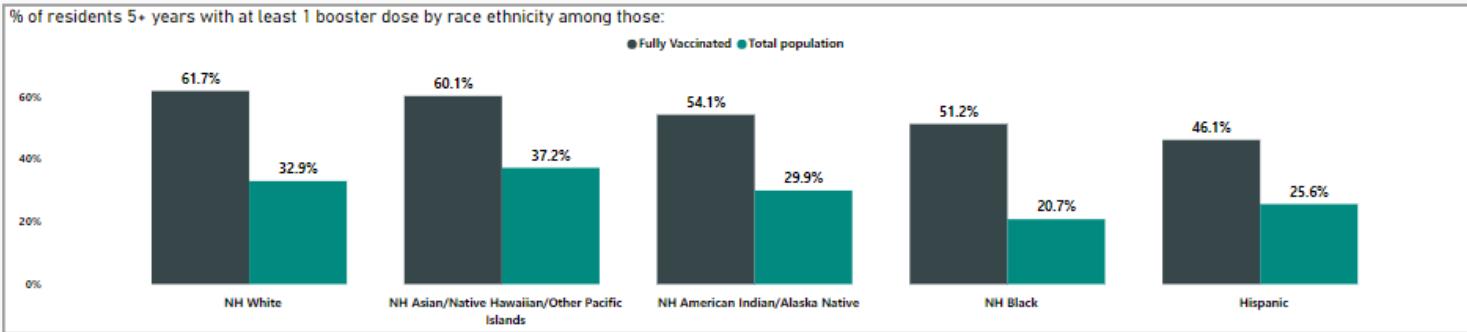
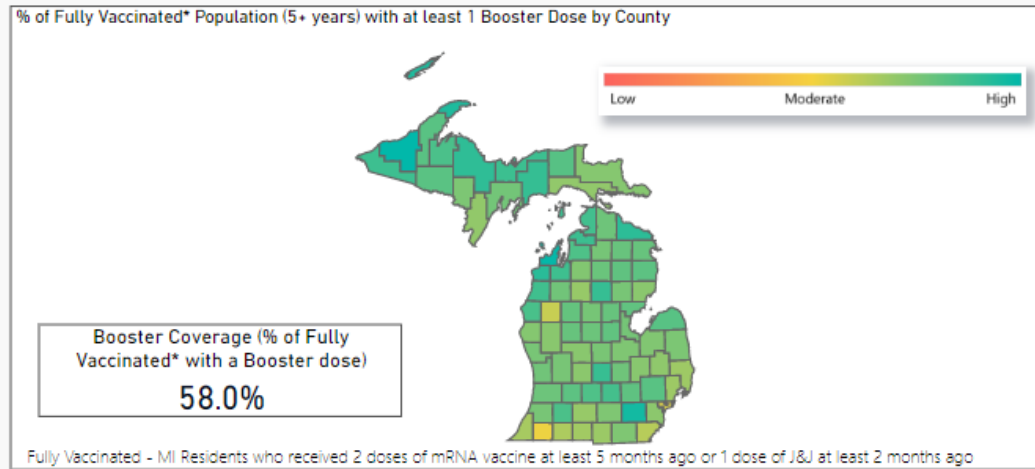
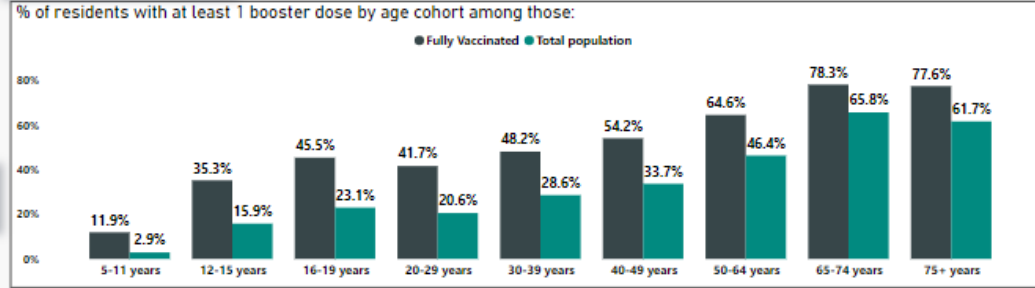
Additional/ Booster Administrations Trend

Michigan

Sex: All

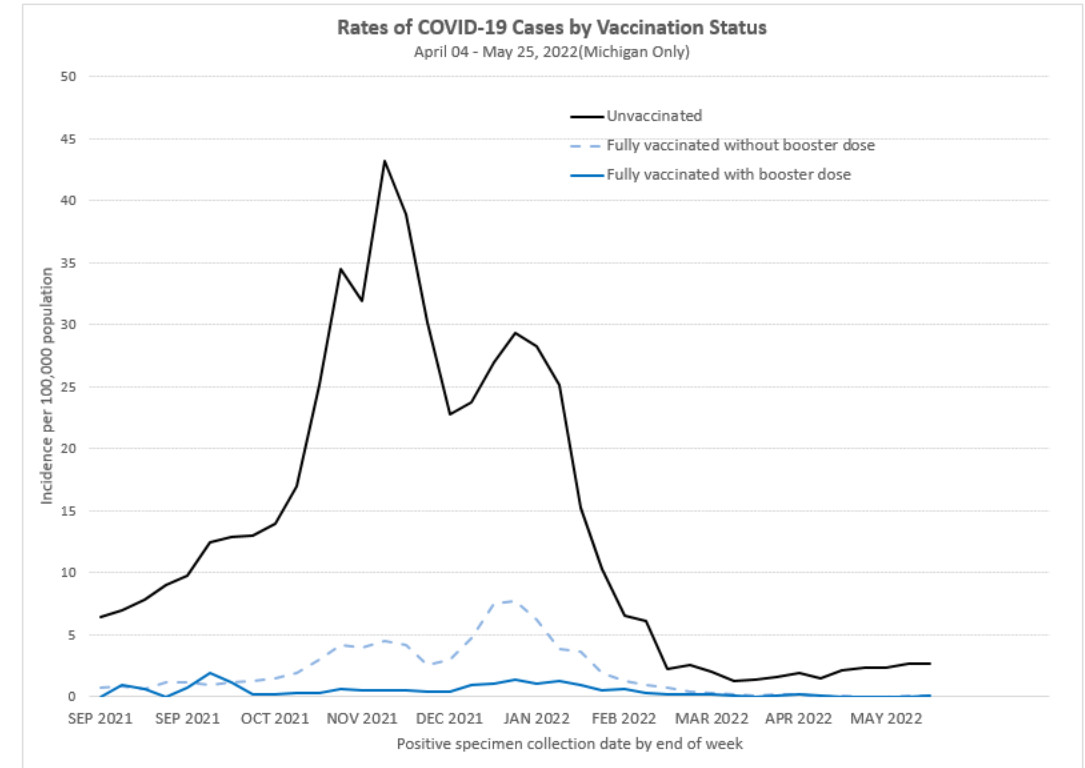
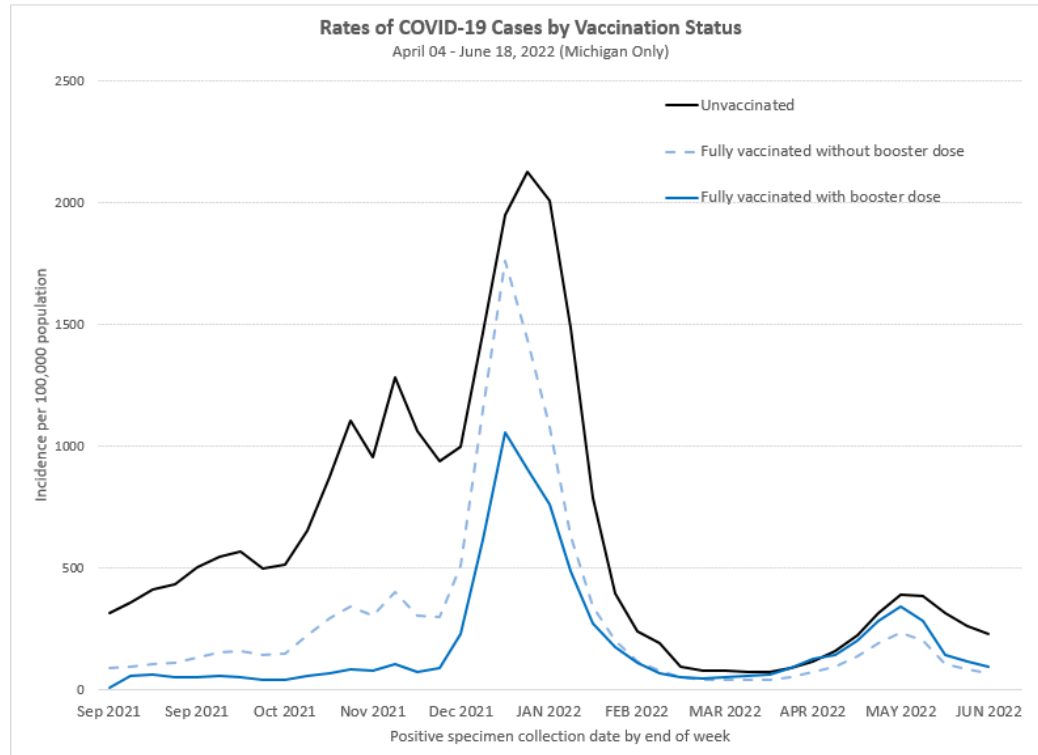
Core-Based Areas: All

Area Categorization: All



Note: Cumulative data and population percentages now include those ages 6 months and older
Source: MDHHS – Michigan Immunizations: COVID-19 Dashboard <https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard>

Unvaccinated people in Michigan had 28 times the risk of dying from COVID-19 in May compared to people up to date on their vaccination



Unvaccinated people aged 12 years and older had:

1.3 X

Risk of Testing Positive for COVID-19

AND

28 X

Risk of Dying from COVID-19

in May, and

2.5 X

Risk of Testing Positive for COVID-19

in June,* compared to people vaccinated with a primary series and a booster dose.**

*These data reflect cases among persons with a positive specimen collection date through June 18, 2022, and deaths among persons with a positive specimen collection date through June 18, 2022. Please note that these provisional data are subject to change. **Data on immune status are unavailable, thus an additional dose in an immunocompromised person cannot be distinguished from a booster dose.

Nationally, unvaccinated adults had 3.5 times the risk of hospitalizations from COVID-19 in May compared to people up to date on their vaccination

In May 2022, compared to people who are up-to-date with COVID-19 vaccination, monthly rates of COVID-19-associated hospitalizations were **3.5x Higher in Unvaccinated Adults Ages 18 Years and Older**.

1.4x Higher
in Unvaccinated Children
Ages 5-11 Years

2.1x Higher
in Unvaccinated Adolescents
Ages 12-17 Years

2.7x Higher
in Unvaccinated Adults
Ages 18-49 Years

3.4x Higher
in Unvaccinated Adults
Ages 50-64 Years

3.8x Higher
in Unvaccinated Adults
Ages 65 Years and Older

Reset Filters

View

Age-Adjusted Rates

Age-Specific Rates

Filters

Season

All

Vaccine Status

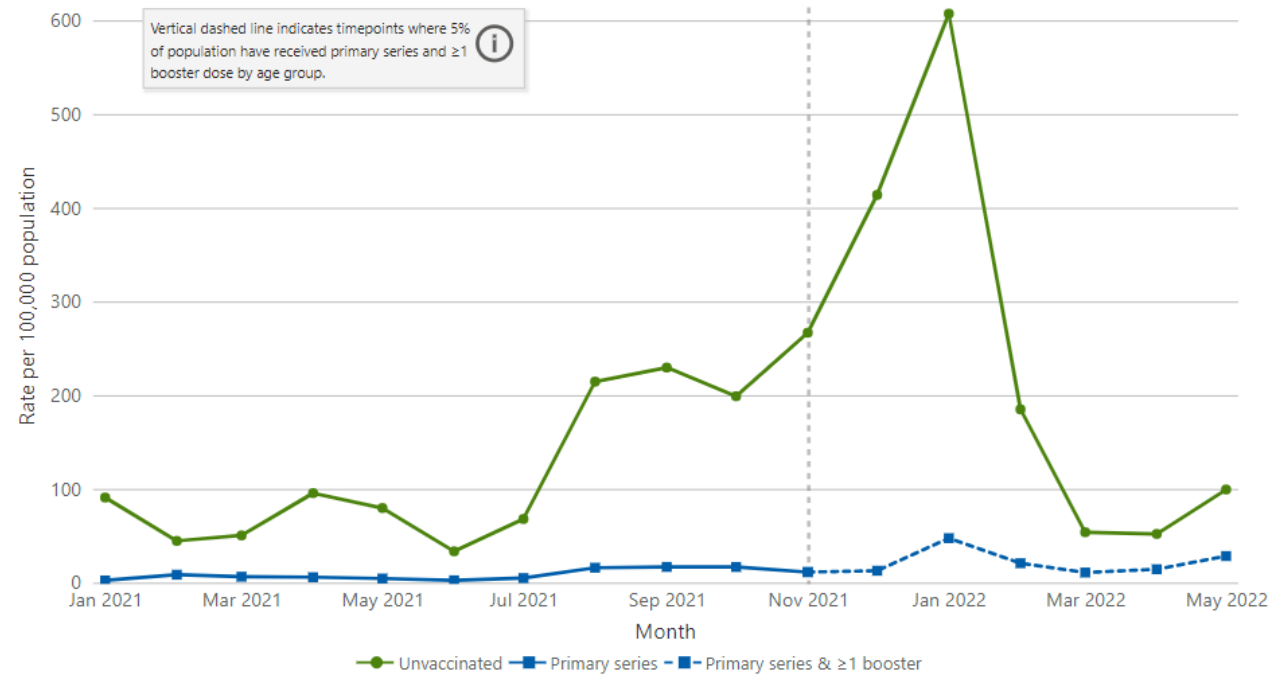
All

Age Group

≥18 Years

Age-Adjusted Rates of COVID-19-Associated Hospitalization by Vaccination Status

in Patients ages ≥18 Years January 2021 - May 2022



These data were posted on June 23, 2022 and reflect hospitalizations through May 2022.

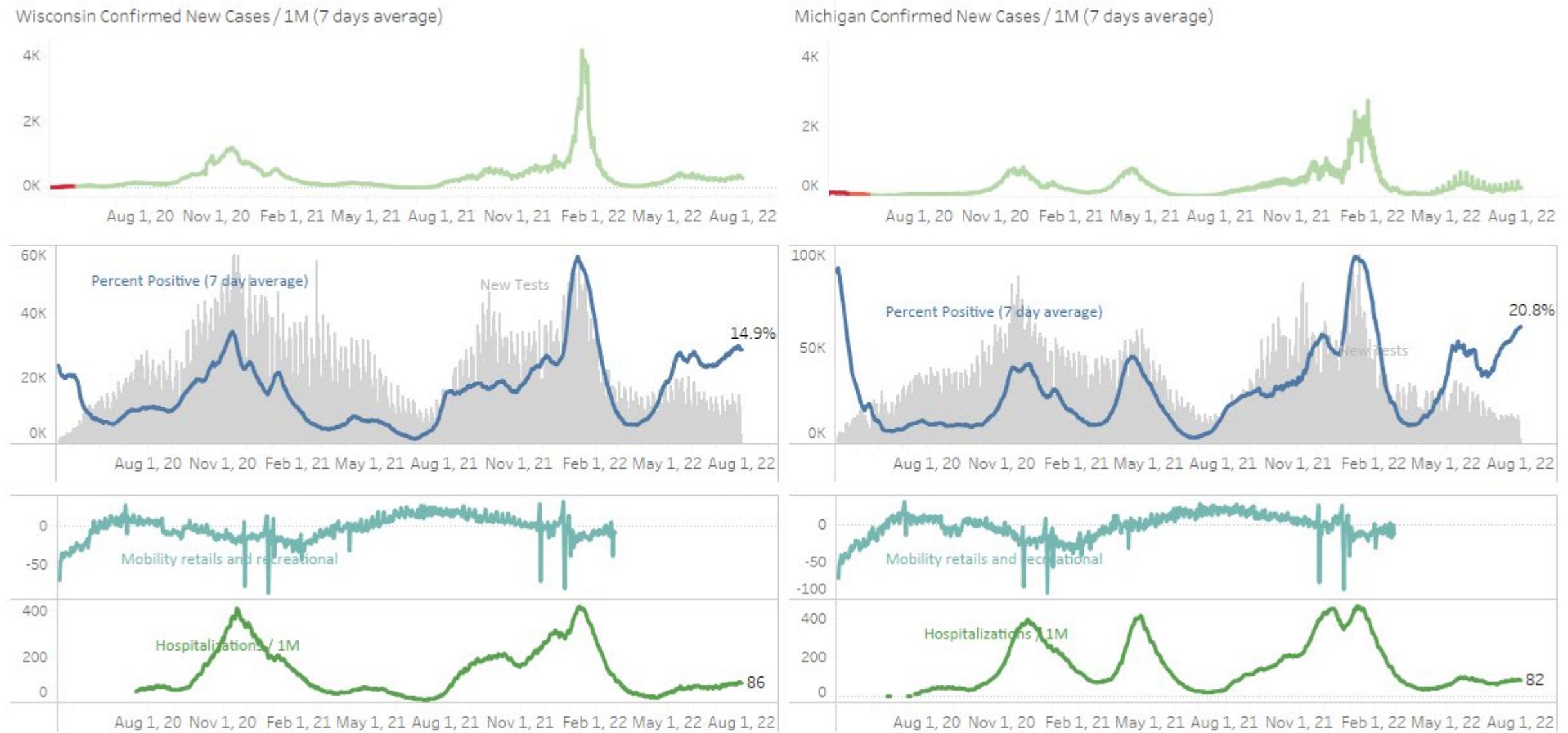
Note: "Primary series" refers to hospitalized patients who have completed their primary COVID-19 vaccination series regardless of whether or not they received a booster or additional dose. "Primary series & ≥1 booster" refers to hospitalized patients who have completed their primary COVID-19 vaccination series and received one or more additional or booster dose. "Unvaccinated" refers to hospitalized patients with no record of receiving any COVID-19 vaccination. "Up-to-date" refers to persons who have received all doses in the primary COVID-19 vaccination series, in addition to one additional dose or booster dose, when eligible.



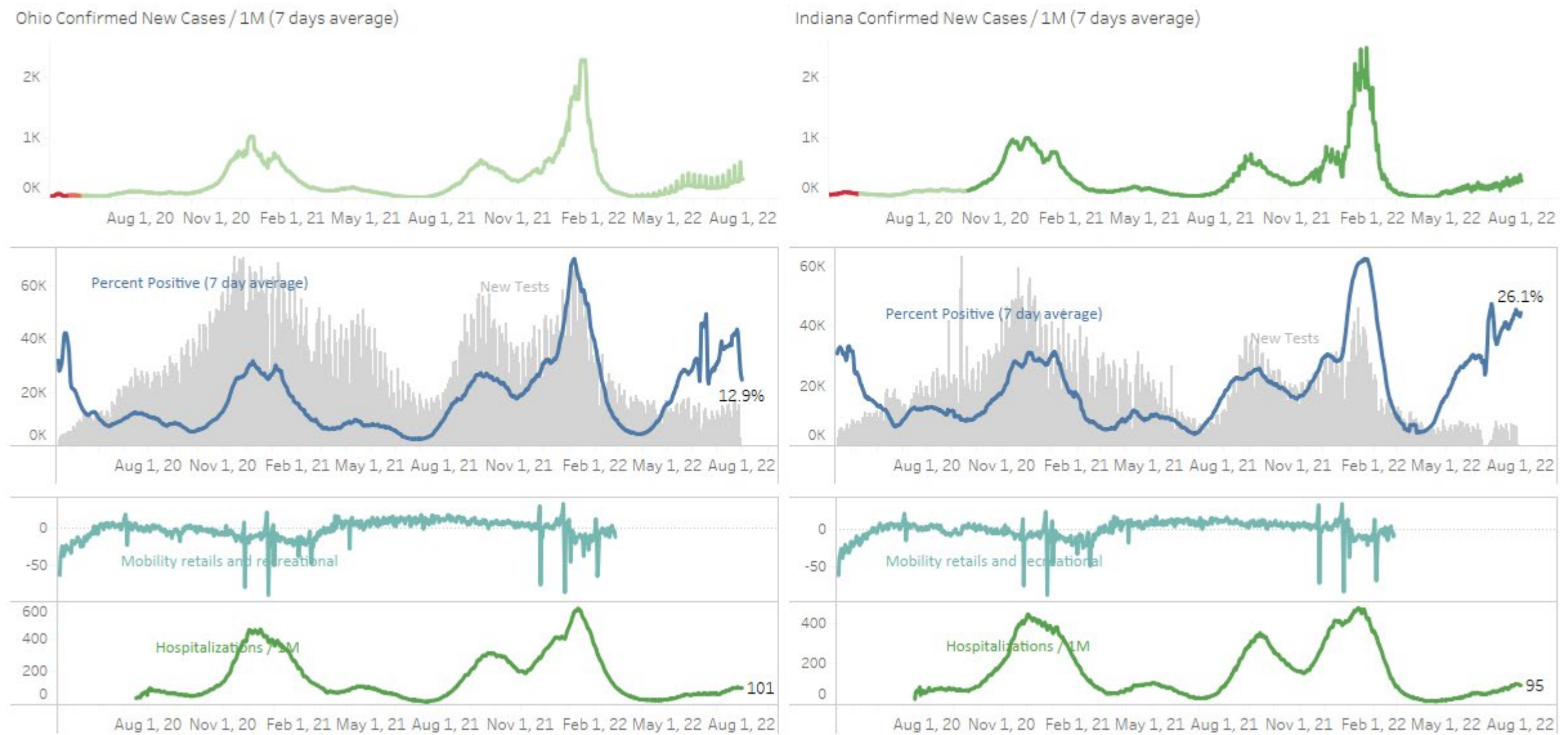
Download Data

APPENDIX

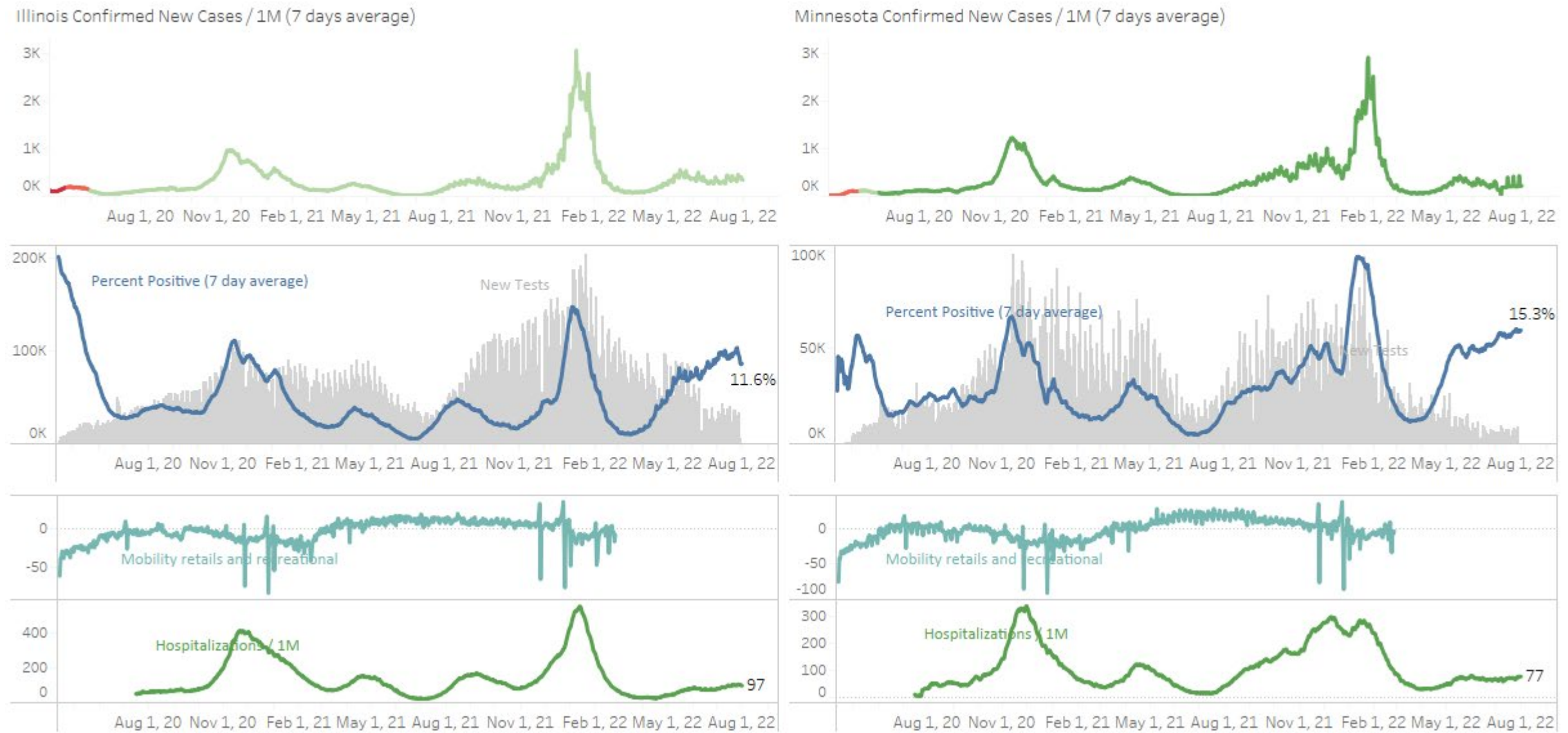
State Comparison: Wisconsin and Michigan



State Comparison: Ohio and Indiana



State Comparison: Illinois and Minnesota

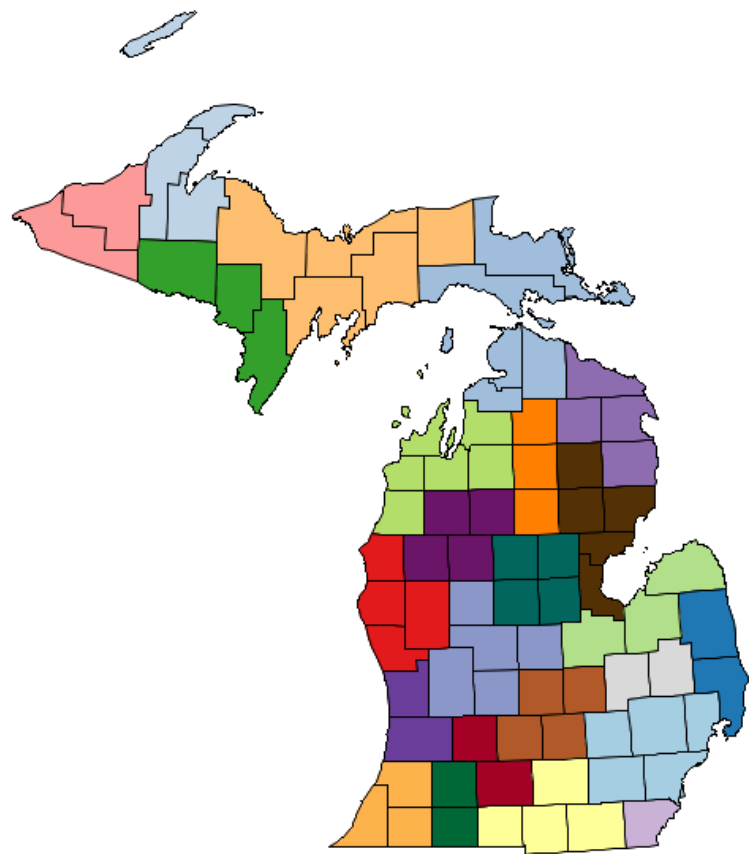


CDC COVID-19 Community Levels are defined by County Case Rates and Health Service Area (HSA) Hospitalizations

COVID-19 Community Levels – Use the Highest Level that Applies to Your Community

New COVID-19 Cases Per 100,000 people in the past 7 days	Indicators	Low	Medium	High
Fewer than 200	New COVID-19 admissions per 100,000 population (7-day total)	<10.0	10.0-19.9	≥20.0
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	<10.0%	10.0-14.9%	≥15.0%
200 or more	New COVID-19 admissions per 100,000 population (7-day total)	NA	<10.0	≥10.0
	Proportion of staffed inpatient beds occupied by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%

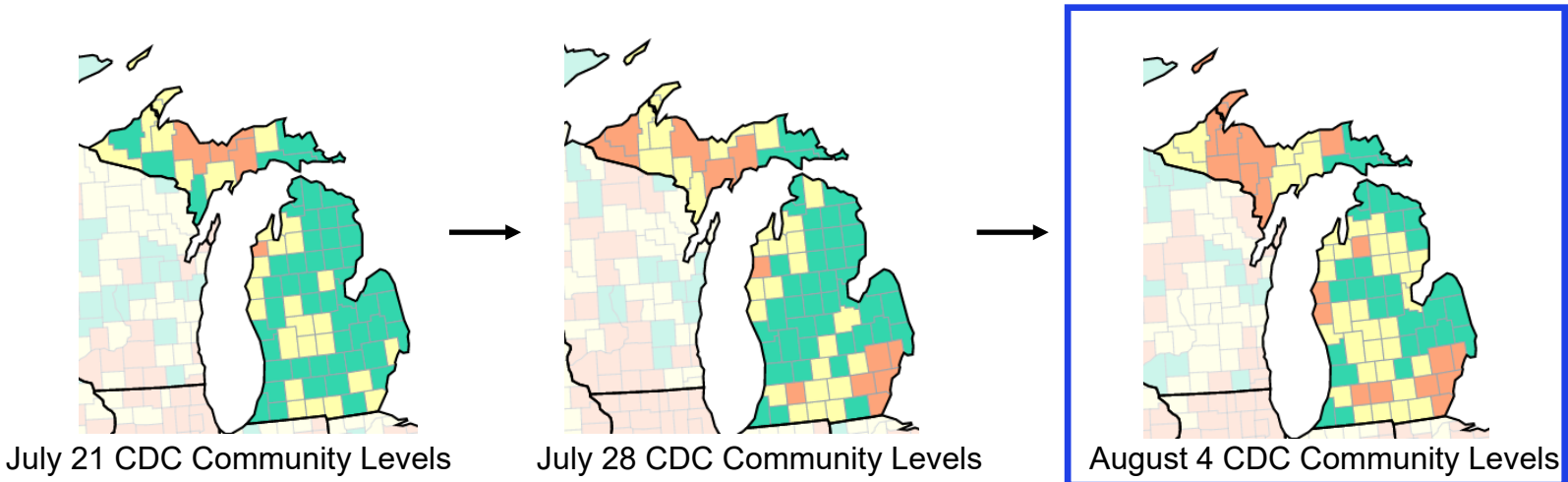
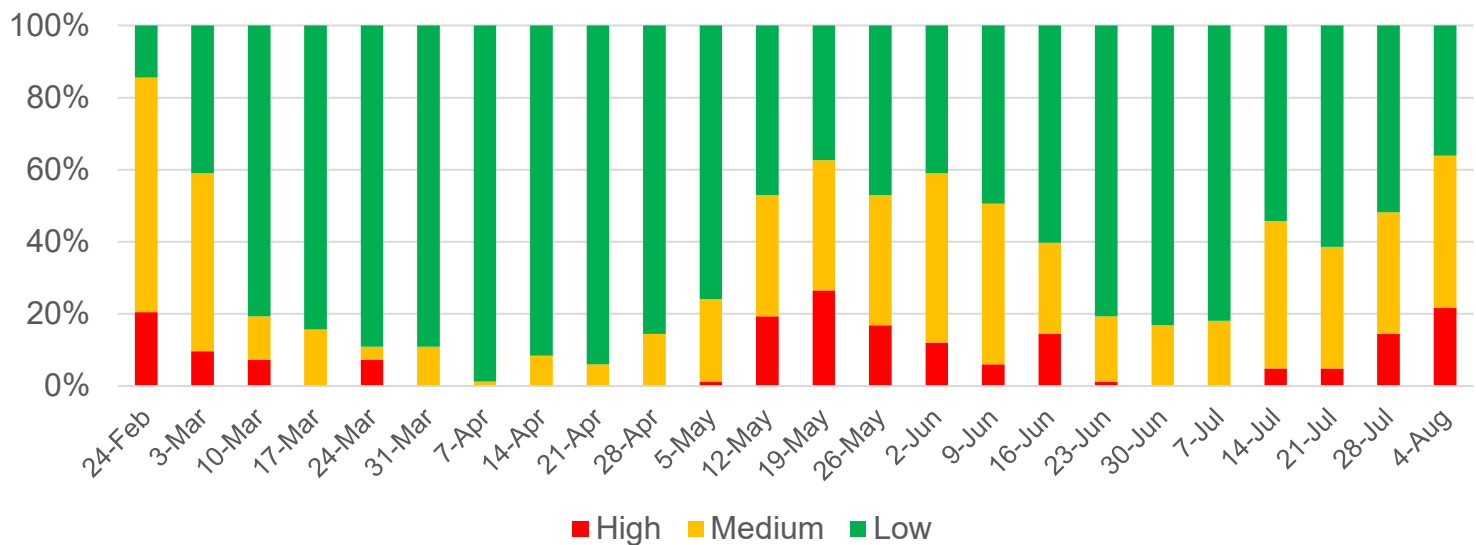
Health Service Areas



Michigan Trends of COVID-19 Community Levels

- As of August 4, 18 (22%) Michigan counties at high COVID-19 community level and another 35 Michigan counties are currently at Medium level (42%)
- The proportion of Michigan counties at medium and high is higher than last week
- Current levels are not as high as the first Omicron wave but are equivalent to the second Omicron (BA.2.12.1) wave

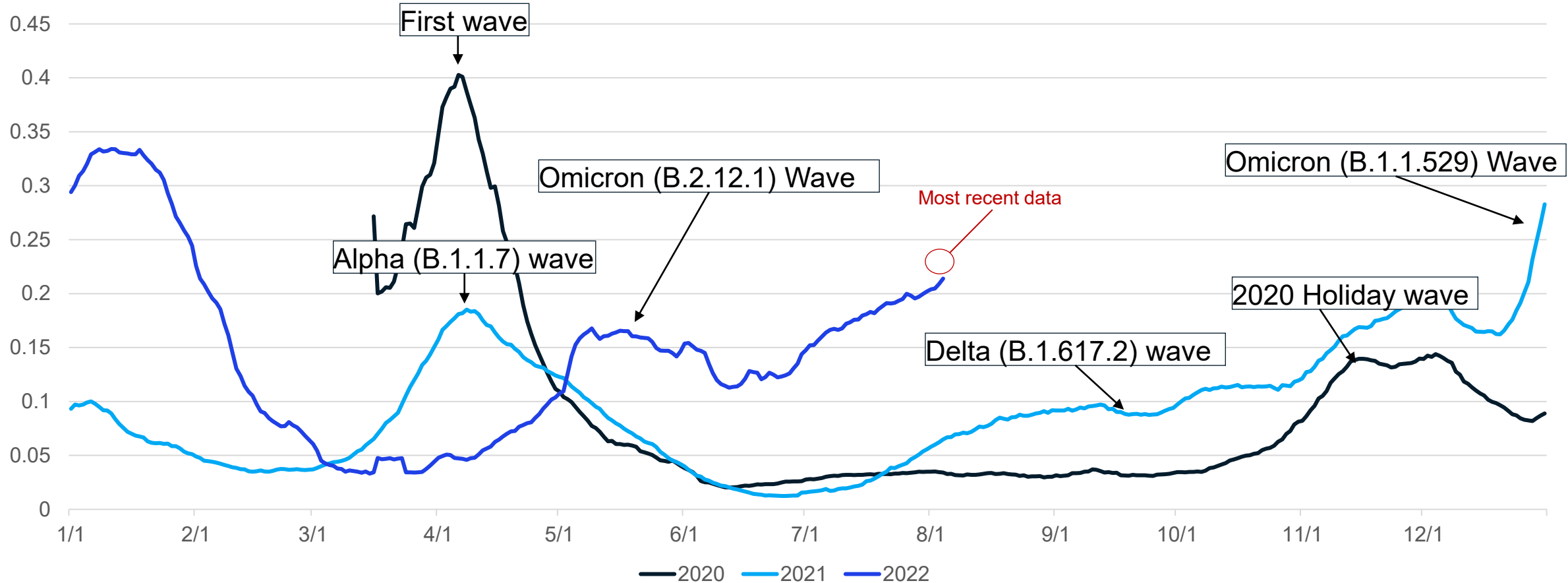
Weekly Percent of MI Counties by CDC COVID-19 Community Level



Time Trends – Annual Comparison: Percent Positivity

- Positivity is about half as high as all-time pandemic highs
- However, testing behaviors have shifted, as such comparison year over year should be done so with caution

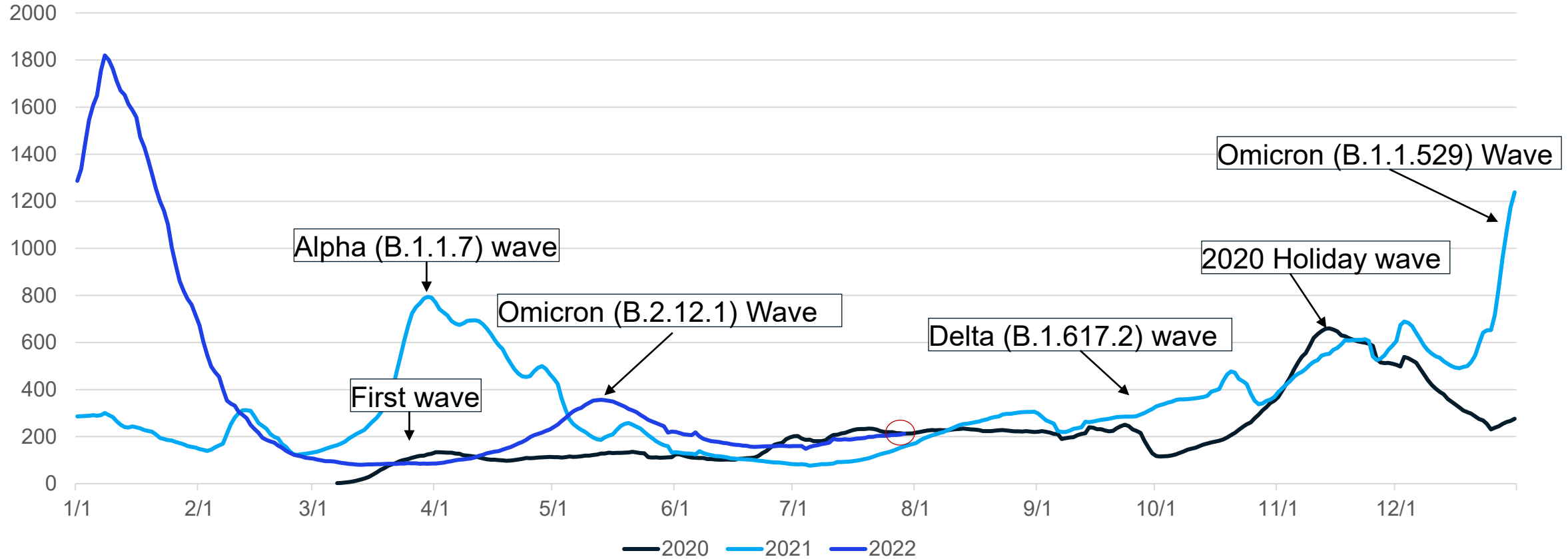
7-day Rolling Average of Positivity



Time Trends – Annual Comparison: Case Rates

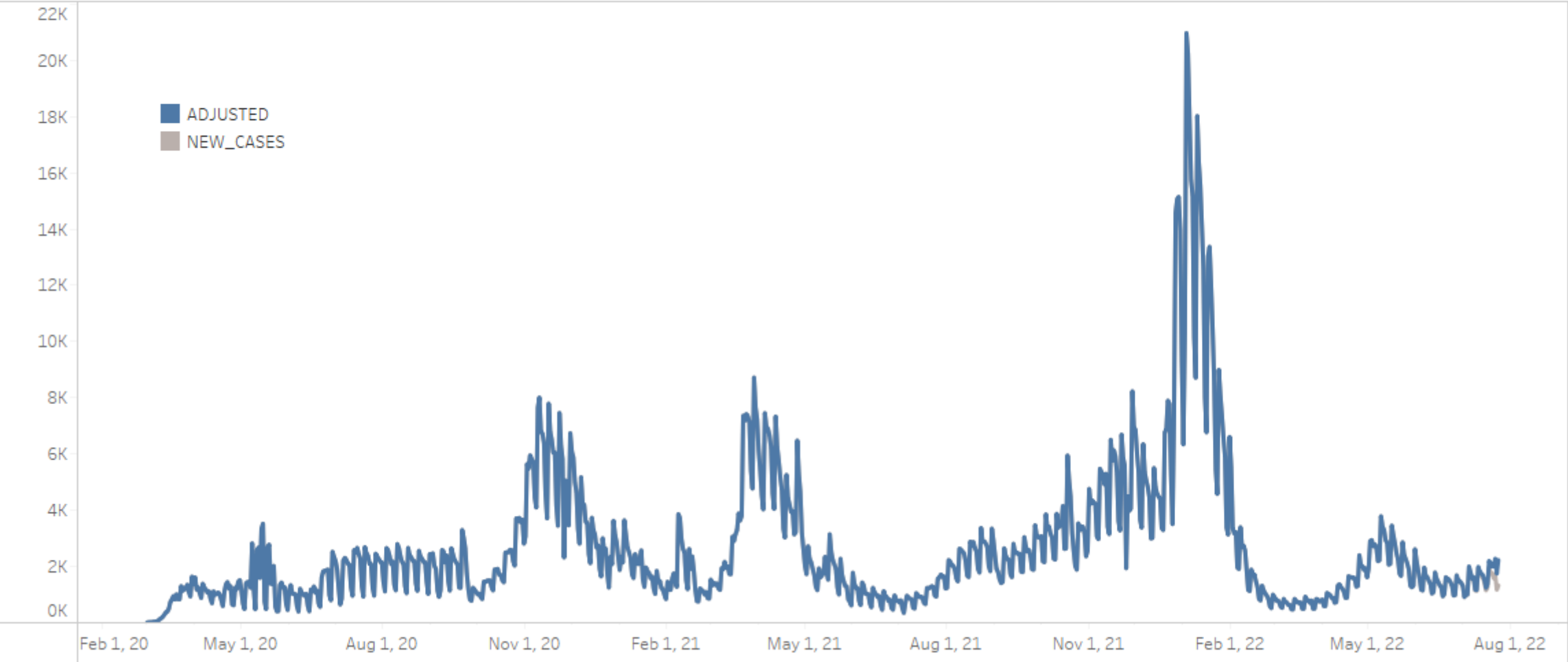
- Case rates (by onset date) are increasing but remain lower than surges from past peaks
- Case rates are, however, similar to last summer's Delta levels

7-day Rolling Average of Case Rates



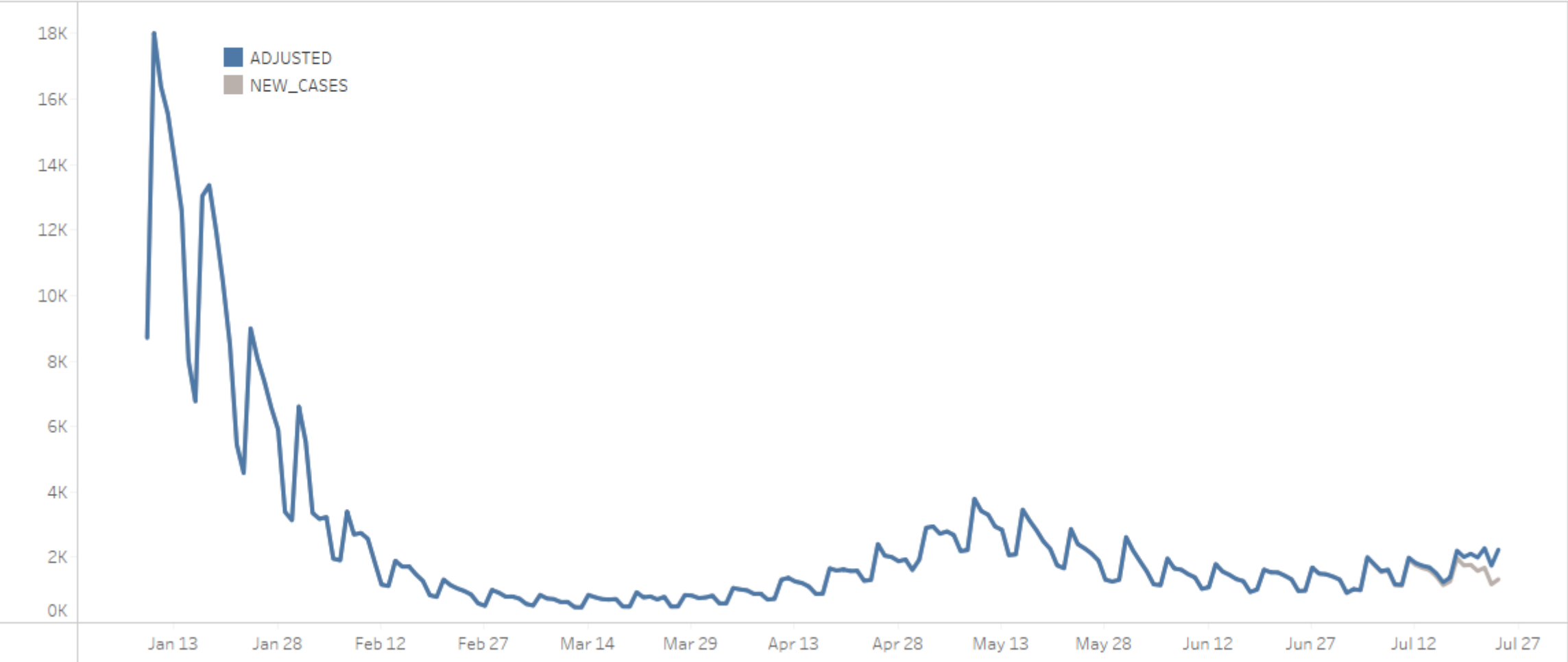
Michigan Lag-adjusted new COVID cases by onset date

New confirmed cases by onset actual and adjusted as of July 26, 2022 (-2 days)



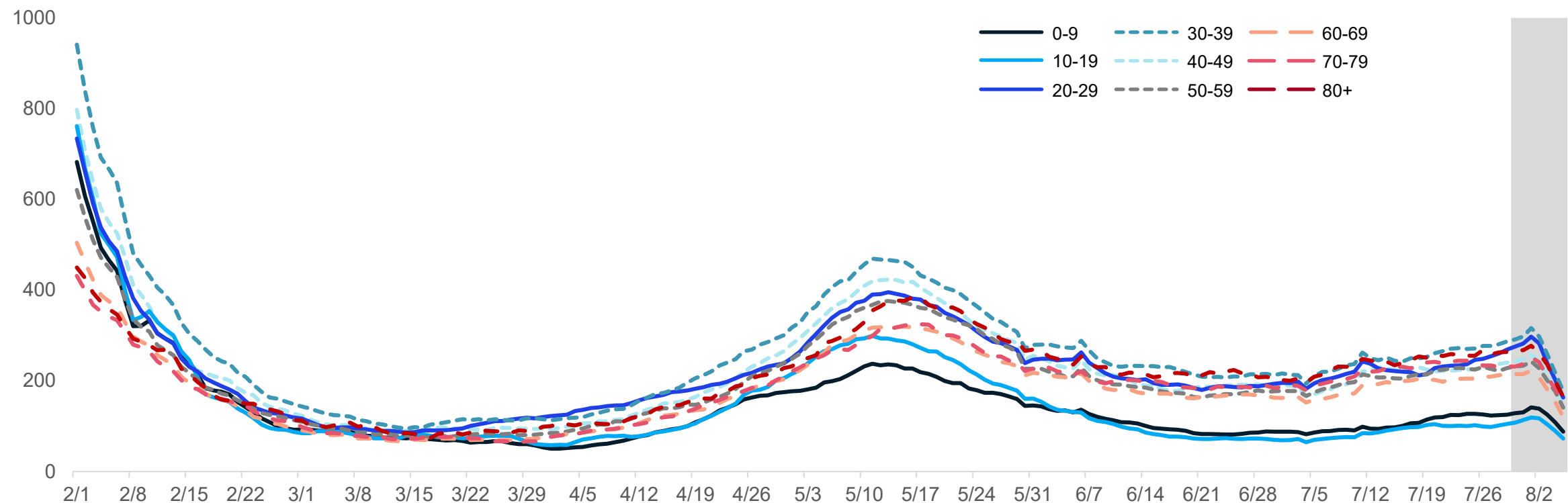
Lag-adjusted new COVID cases by onset date, recent trends

New confirmed cases by onset actual and adjusted as of July 26, 2022 (-2 days)



Case Rate Trends by Age Group

Daily new confirmed and probable cases per million by age group (7-day rolling average)

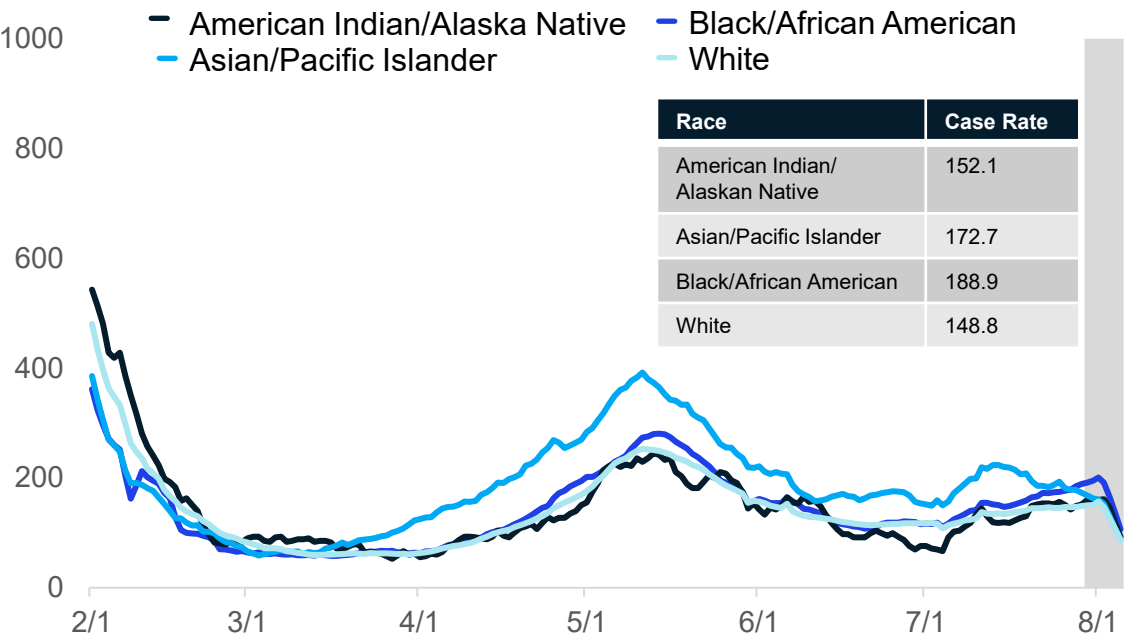


- Case rate trends for all age groups experienced a slight increase over the last week
- Case rates by onset date for all age groups are between 105.2 and 286.9 cases per million (through 7/29)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 20-29-year-olds and the 80+-year-olds

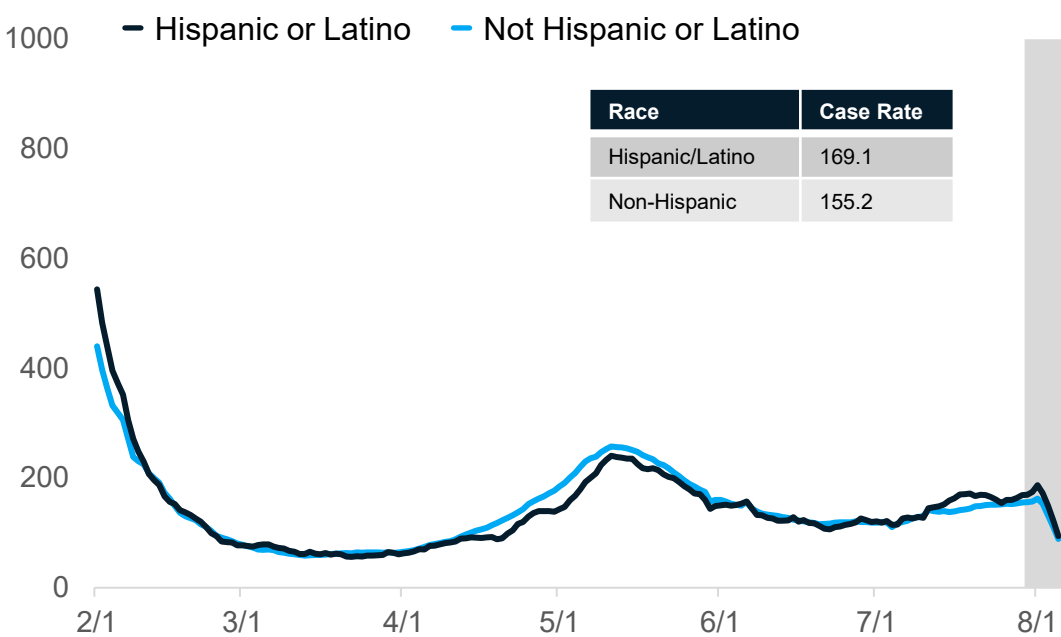
Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System

Case Rates by Reported Racial and Ethnic Group

Daily new confirmed and probable cases per million (7 day rolling average) by race category



Daily new confirmed and probable cases per million (7 day rolling average) by ethnicity category



Updates since last week:

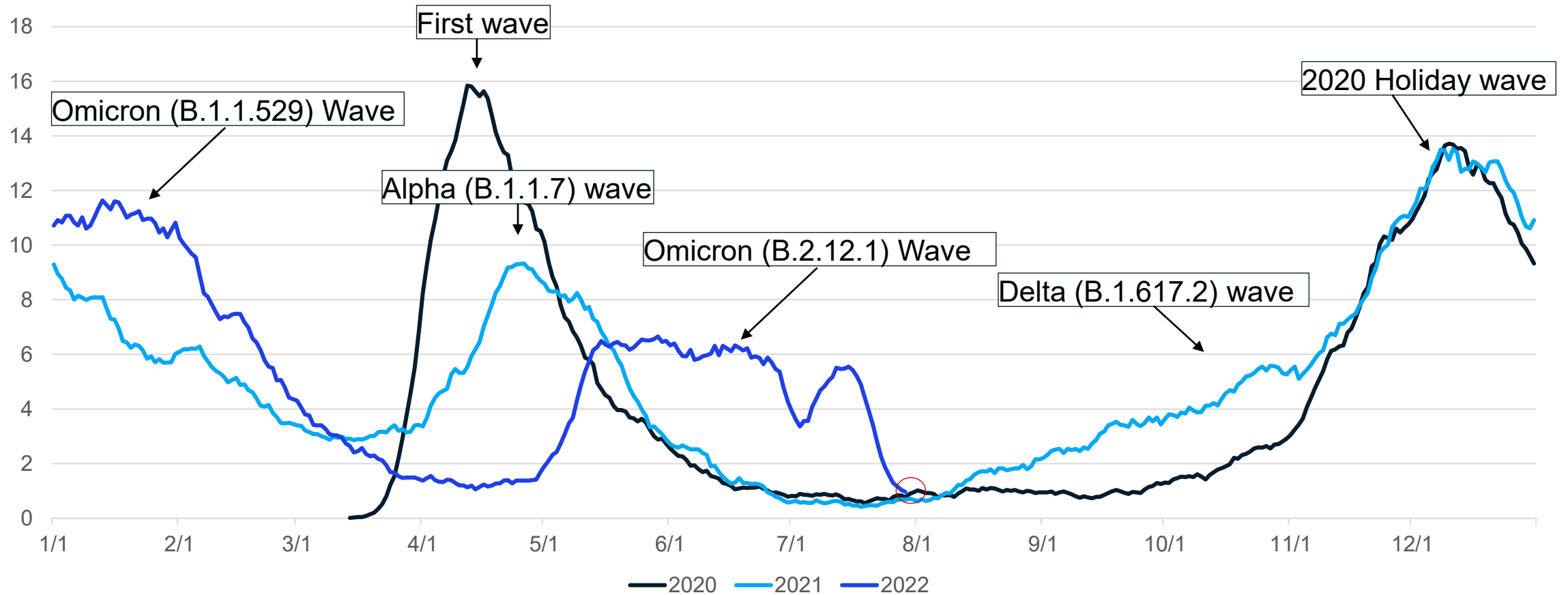
- Cases per million have increased slightly for nearly all reported racial and ethnic groups
- In the past 30 days, 20.7% (↔) of race data and 26.0% (↑ 0.1%) ethnicity data was either missing or reported as unknown

Note: Case information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

Time Trends – Annual Comparison: Death Rates

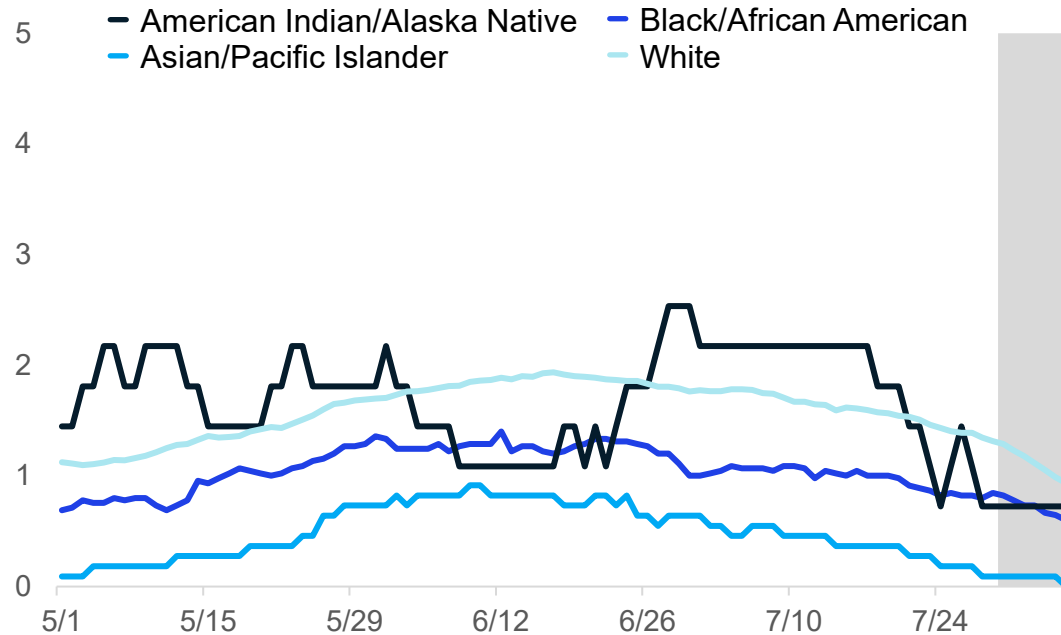
- Death rates (by date of death) are near pandemic all-time lows
- Deaths are lagging indicator, typically trailing case trends by 4 o 6 weeks

7-day Rolling Average of Death Rates (per million residents)

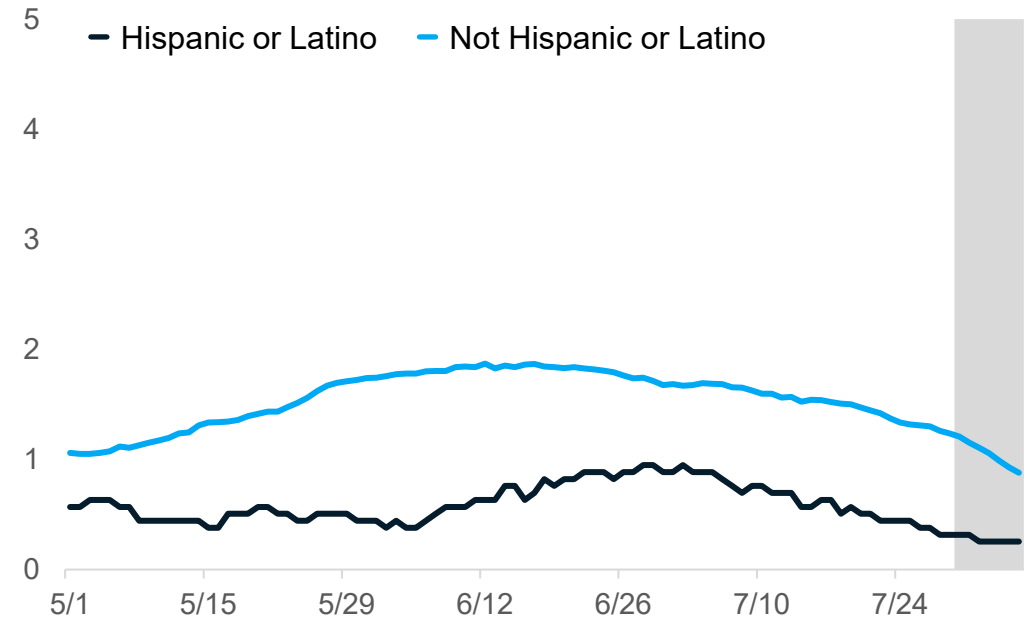


Daily average deaths per million people by race and ethnicity have plateaued or are decreasing

Average daily deaths per million people by race



Average daily deaths per million people by ethnicity



- Deaths are lagging indicator of other metrics
- Currently, the White population has the highest death rate (1.31 deaths/million)

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

Pediatric Vaccination for those 6 months to 5 years: Key Messages

COVID-19 vaccines are now available for ages 6 months and up

- Everyone 6 months and older should also get an age-appropriate COVID-19 booster, when eligible
- Vaccinations remain the best way to protect from COVID-19, especially from severe disease
- The youngest children can get infected and suffer from severe outcomes
 - Hospital admissions due to COVID-19 for children follow statewide trend with youngest ages accounting for majority of pediatric admissions
 - During the Omicron surge, COVID-19 hospitalizations per capita was higher for those 6 months to 4 years than for children of other ages
 - The proportion of children ages 6 months to 4 years with COVID-19 associated hospitalization were primarily admitted for COVID-19 and over half have no underlying medical conditions
 - Compared to other vaccine preventable diseases, COVID-19 is responsible for more hospitalizations and deaths
 - In Michigan, multisystem inflammatory syndrome in children (MIS-C), over a quarter of all cases have been reported from those under the age of 5
 - Nationally, over 60% of MIS-C cases under the age of 5 have been reported among Non-Hispanic Blacks and Hispanic/Latino
 - COVID-19 is a leading cause of death among all children, including one of the leading causes of death for those under 5 years
 - Based on cumulative total incidence, COVID-19 is the leading cause of death among infectious diseases for people aged 0-19
 - Among children under the age of 5, COVID-19 is the fifth most common of all causes of death
- COVID-19 vaccine has proven to be safe for children in other age groups

COVID-19 vaccines are now available for ages 6 months and up!

Both the Pfizer and Moderna COVID-19 vaccines are now authorized and recommended for children 6 months and older. Everyone 5 years and older should also get an age-appropriate COVID-19 booster, when eligible.

More than **4,000** providers across Michigan can administer the COVID-19 kids vaccine, including:

Family physicians and pediatricians

Some pharmacies (ages 3+)

Local health departments and federally qualified health centers

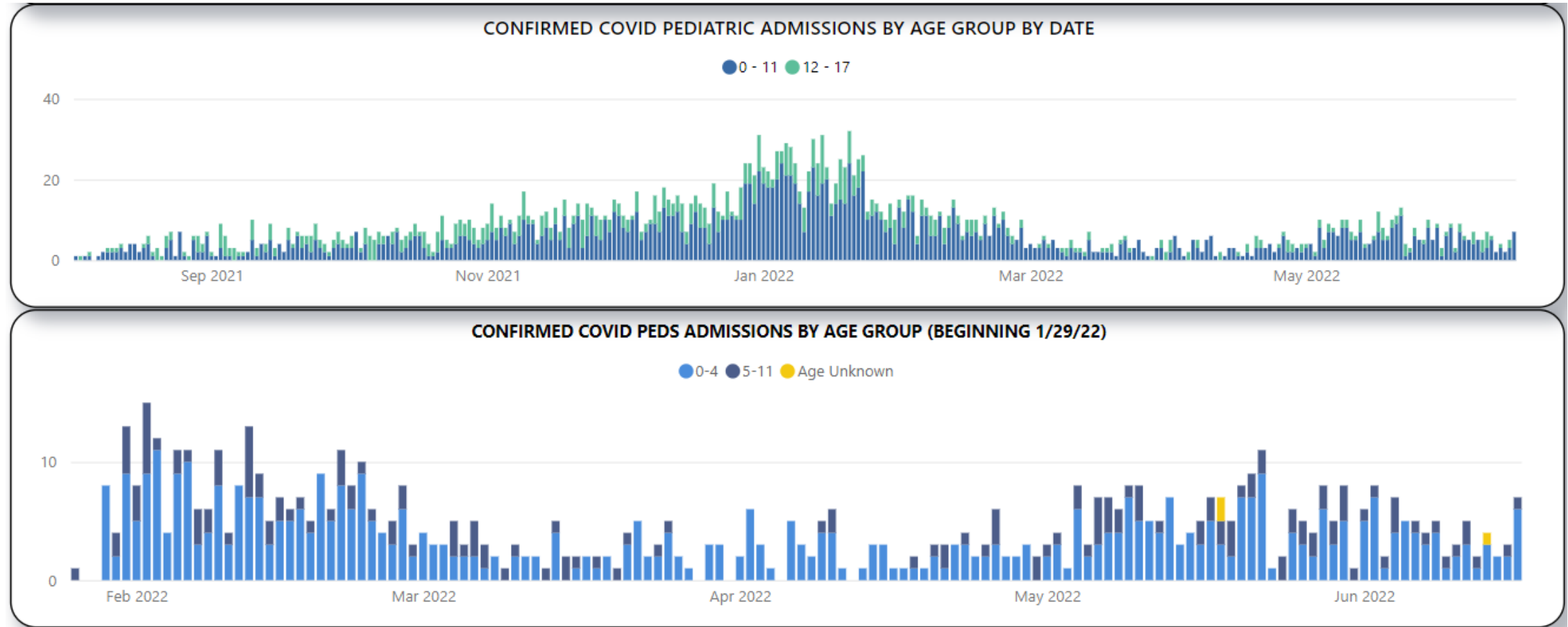
Urgent cares (ages 5+)



For more information, visit Michigan.gov/KidsCOVIDvaccine or talk to a health care provider.



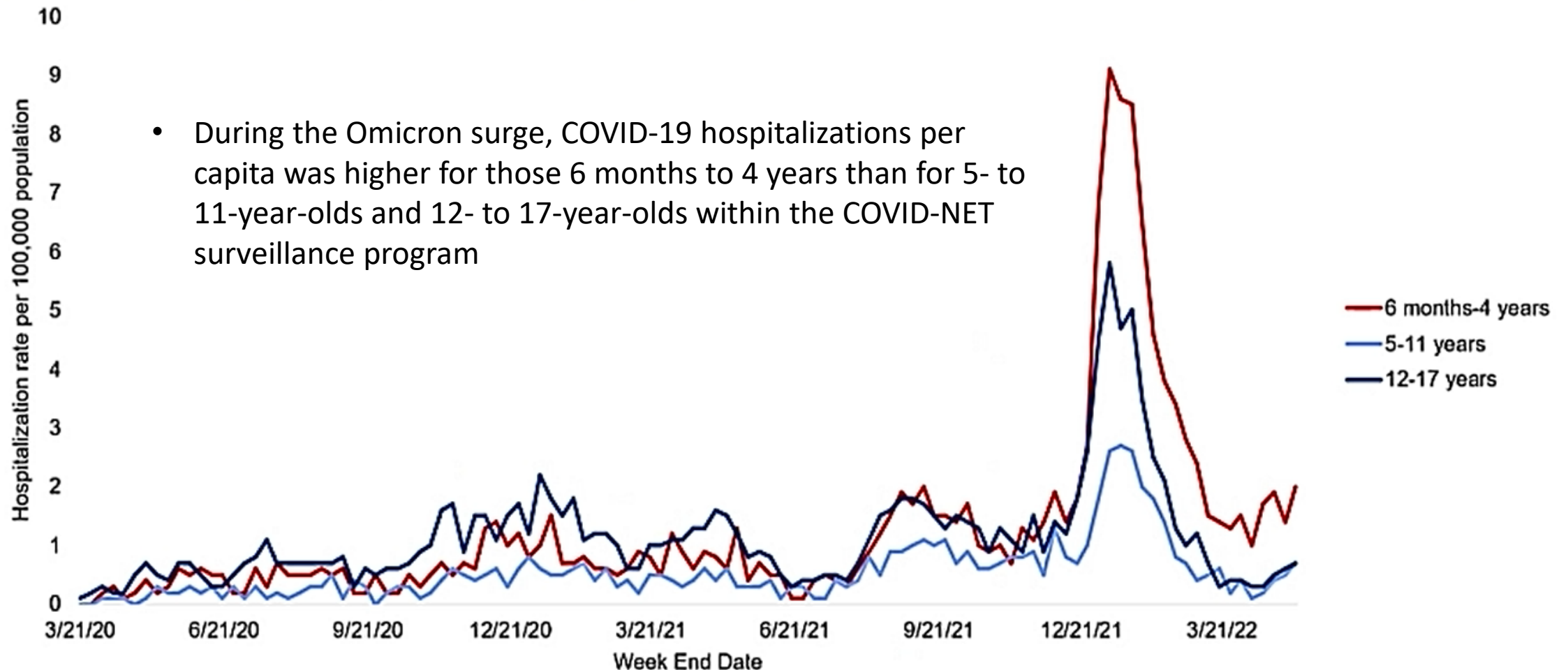
Hospital admissions due to COVID-19 for children follow statewide trend with youngest ages accounting for majority of pediatric admissions



- Hospital admissions reflect statewide infection trends where admissions are higher during surges of SARS-CoV-2 transmission
- Among those under 18 years of age, the majority of hospital admissions occurred in those 0-11 in Michigan
- Among those under 12 years of age, the majority of hospital admissions occurred in those 0-4 in Michigan

COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET

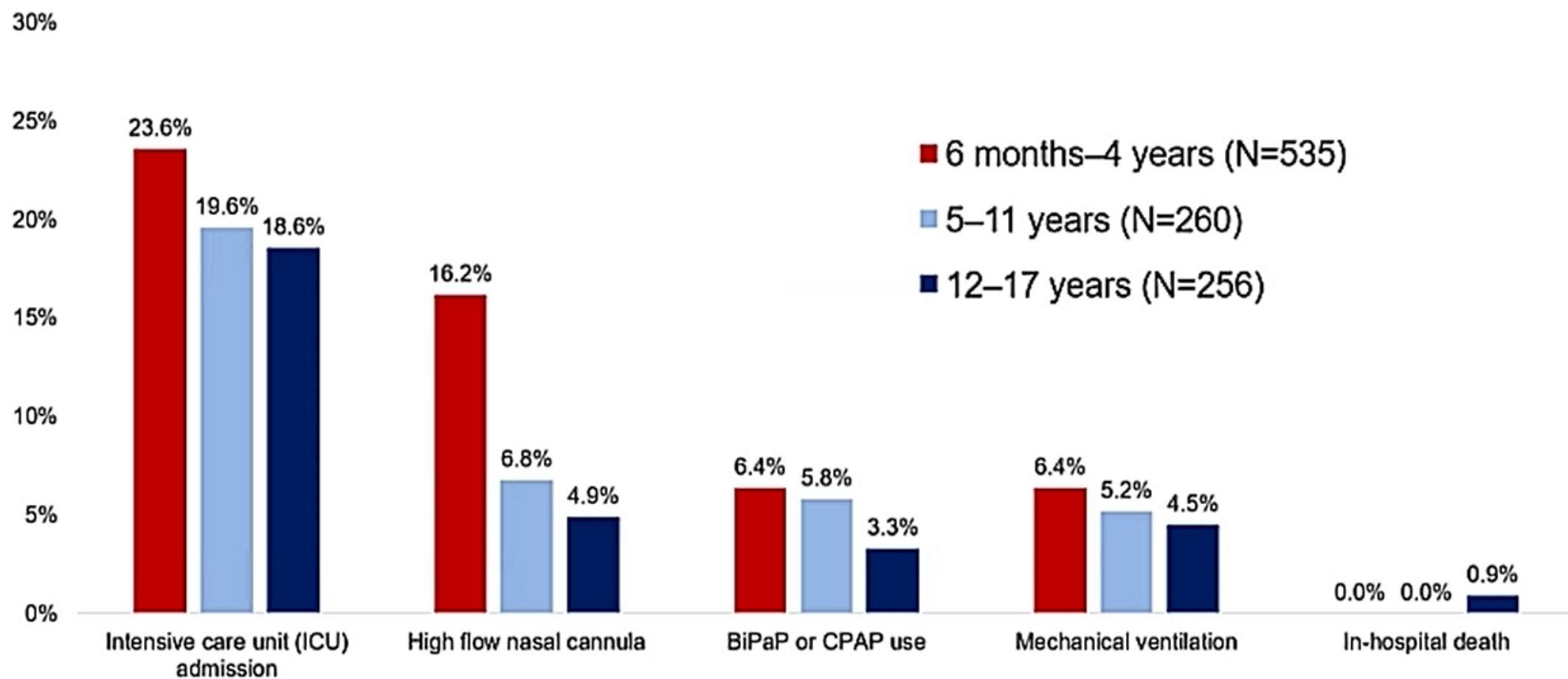
March 2020 – March 2022



Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Source: COVID-NET, https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html. Accessed May 21, 2022.

Severity of COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET, December 19, 2021 – March 31, 2022 (Omicron period)



BiPAP: bilevel positive pressure, CPAP: continuous positive pressure

Source: COVID-NET data. Accessed May 21, 2022.

Percent of children ages 6 months–4 years with COVID-19 associated hospitalization with underlying health conditions

■ At least 1 underlying medical conditions ■ No underlying medical conditions

New Vaccine Surveillance Network, March 2020
– April 2022

46%

54%

COVID-NET, March 2020 – March 2022

49%

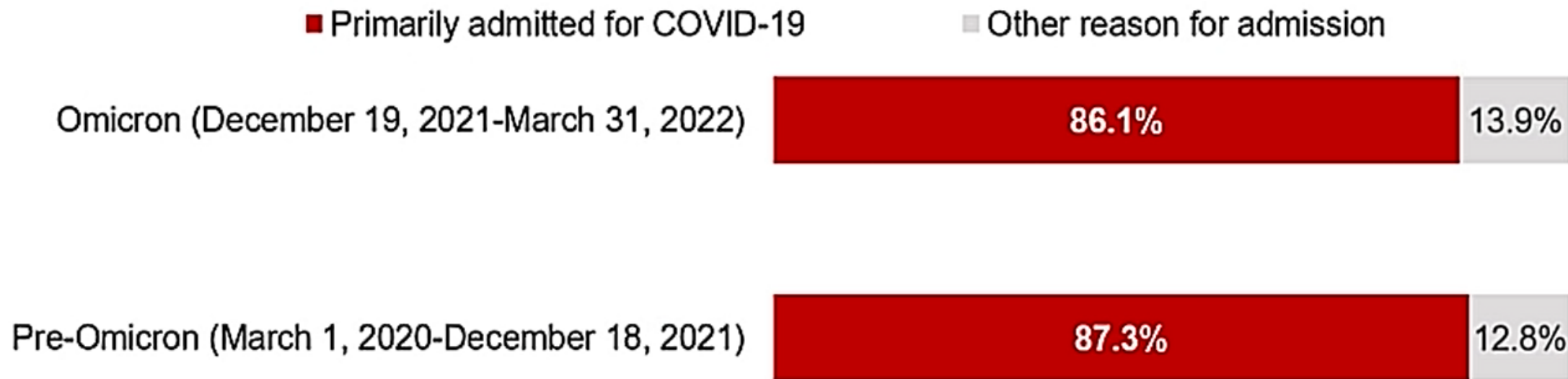
51%

Source: 1. New Vaccine Surveillance Network. Preliminary data as of May 25, 2022, reflecting data from March 2020–April 2022

2. COVID-NET data. Accessed May 21, 2022, reflecting data from March 2020–March 2022

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Proportion of children ages 6 months–4 years with COVID-19 associated hospitalization who were primarily admitted for COVID-19, COVID-NET March 2020 – March 2022



All children in COVID-NET had a positive SARS-CoV-2 test within 14 days of or during hospital admission. "Primarily admitted for COVID-19" was defined based on the "Reason for admission" field from the case report form. If the chief complaint or history of present illness in the medical chart documents fever/respiratory illness, COVID-19-like illness, or a suspicion for COVID-19, a case is categorized as having COVID-19 as the primary reason for admission. Examples of other non-COVID-19-related reasons for admission seen in this age group include admissions for trauma or inpatient surgeries.

Source: COVID-NET data, Accessed May 21, 2022.

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Multisystem Inflammatory Syndrome in Children (MIS-C)

Michigan Surveillance

- Higher community transmissions is followed by higher incidence of MIS-C cases
- 304 cases identified in Michigan: highest numbers have occurred after most recent Omicron surge
- More than 25% of those children are those under 5 years of age
- Black/African American children are disproportionately impacted
- 63.5% (193) children with MIS-C are treated in the ICU
- Among Michigan’s MIS-C cases that were eligible for vaccine (N=113), a majority of children (89.4%, n=101) were unvaccinated
 - **Scientific evidence has shown that unvaccinated kids are at much higher risk of severe MIS-C outcomes¹**

Age Group	Count	%
<1	11	3.6%
1-4	74	24.3%
5-11	146	48.0%
12-15	54	17.8%
16-20	19	6.3%

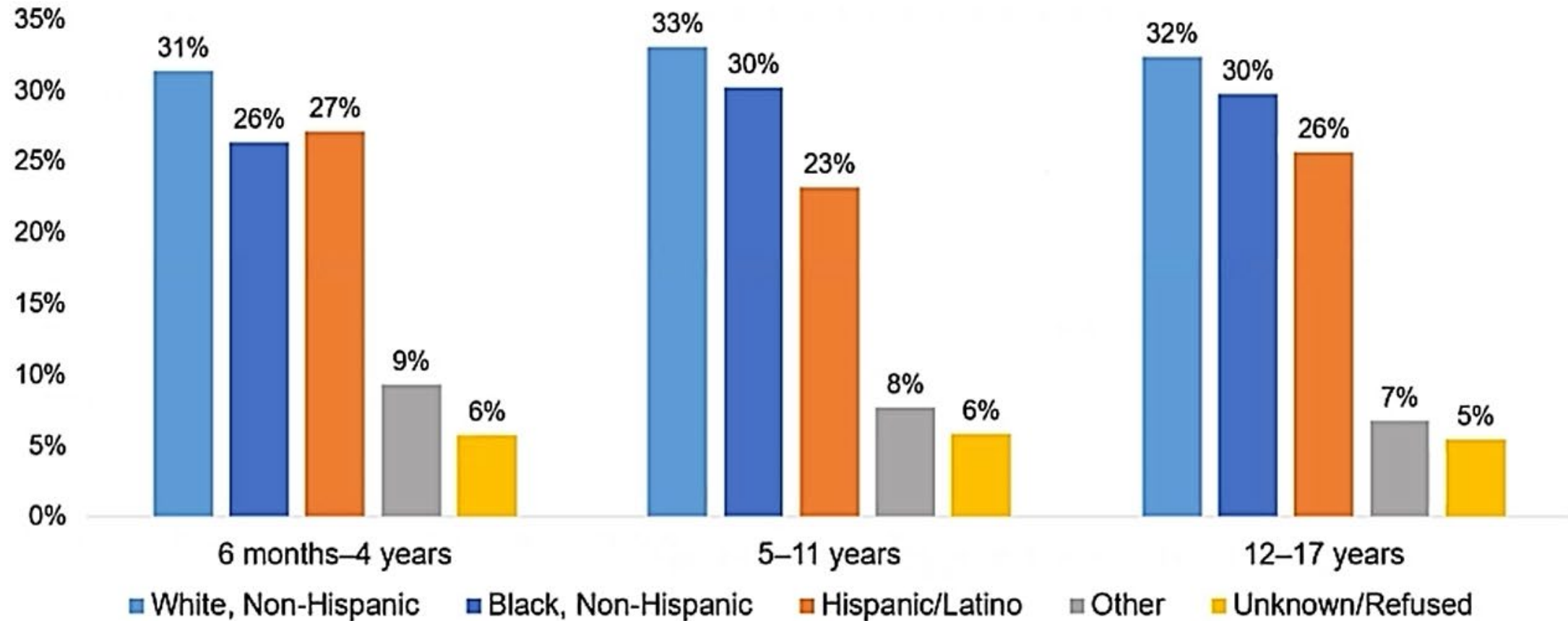
Race	Count	%
Black/African American	106	34.9%
Caucasian	146	48.0%
All Others/Unknown	52	17.1%

Ethnicity		
Not Hispanic/Non-Latino	227	74.7%
Hispanic/Latino	27	8.9%
Unknown	50	16.4%

Sources: [MDHHS and MIS-C Data and Reporting](#); Data through 6/30; 1. Zambrano LD, Newhams MM, Olson SM, et al. Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem Inflammatory Syndrome in Children Among Persons Aged 12–18 Years — United States, July–December 2021. MMWR Morb Mortal Wkly Rep 2022;71:52–58. DOI: <http://dx.doi.org/10.15585/mmwr.mm7102e1>

MIS-C patients by race & ethnicity for children and adolescents ages 6 months–17 years by age group

February 1, 2020 – May 31, 2022

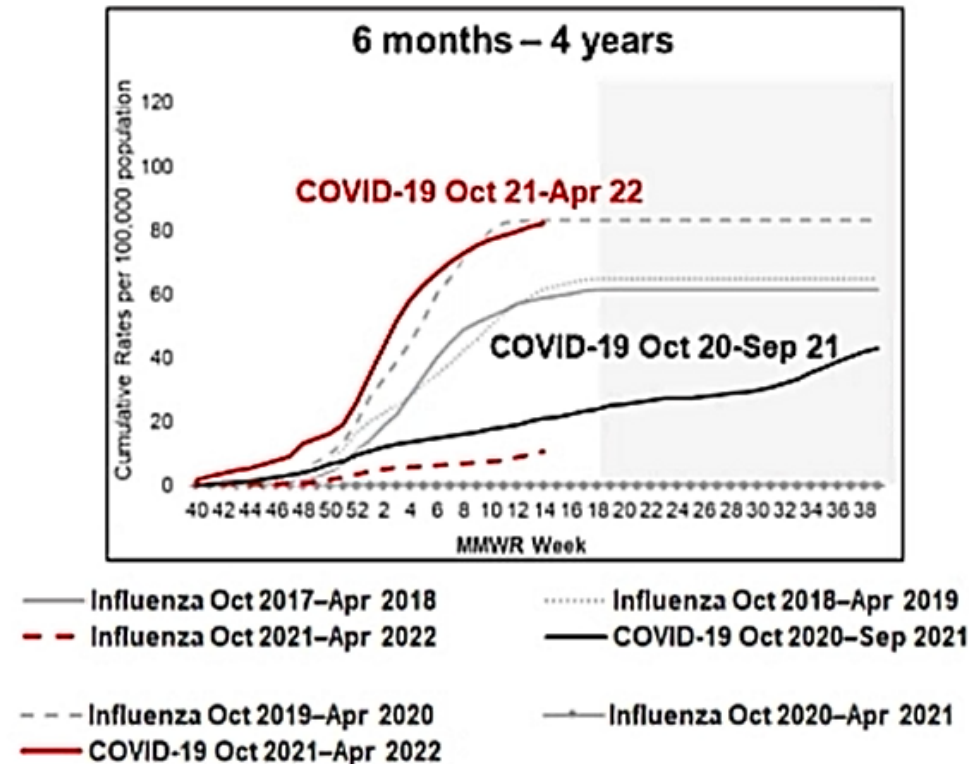


Age is missing for 1 case.

Source: CDC data. Accessed June 7, 2022

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Cumulative influenza- and COVID-19-associated hospitalization rates per 100,000 children ages 6 months–4 years, FluSurv-NET and COVID-NET, 2017–2022



Among children ages 6 months–4 years

- Oct 2020–Sep 2021 COVID-19 hospitalization rates were lower than influenza hospitalization rates during 2017–18 through 2019–20 (pre-pandemic) influenza seasons
- Oct 2021–Apr 2022 COVID-19 hospitalization rates were as high or higher than influenza hospitalization rates during 2017–18 through 2021–22 influenza seasons

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22–23, 2022

Source: Delahoy MJ, Ujamaa D, Taylor CA, et al. [Comparison of Influenza and COVID-19-associated hospitalizations among children < 18 years old in the United States-FluSurv-NET \(October-April 2017-2021\) and COVID-NET \(October 2020-September 2021\)](#). Clin Infect Dis. 2022 May 20;ciac388. doi: 10.1093/cid/ciac388.

Other Pediatric Vaccine Preventable Diseases:

Hospitalizations per Year Prior to Recommended Vaccines

	Hepatitis A ¹	Varicella ² (Chickenpox)	Vaccine-type Invasive Pneumococcal Disease ³	COVID-19 ⁴
Age	5–14 years	0–4 years	0–4 years	6 months–4 years
Time period	2005	1993–1995	1998–1999	Year 1: April 2020–March 2021 Year 2: April 2021–March 2022
Hospitalization Burden (Annual rate per 100,000 population)	<1	29-42	40 ⁵	Year 1: 29.8 Year 2: 89.3

¹ <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss5603a1.htm>

² Davis MM, Patel MS, Gebremariam A. Decline in varicella-related hospitalizations and expenditures for children and adults after introduction of varicella vaccine in the United States. *Pediatrics*. 2004;114(3):786-792. doi:10.1542/peds.2004-0012

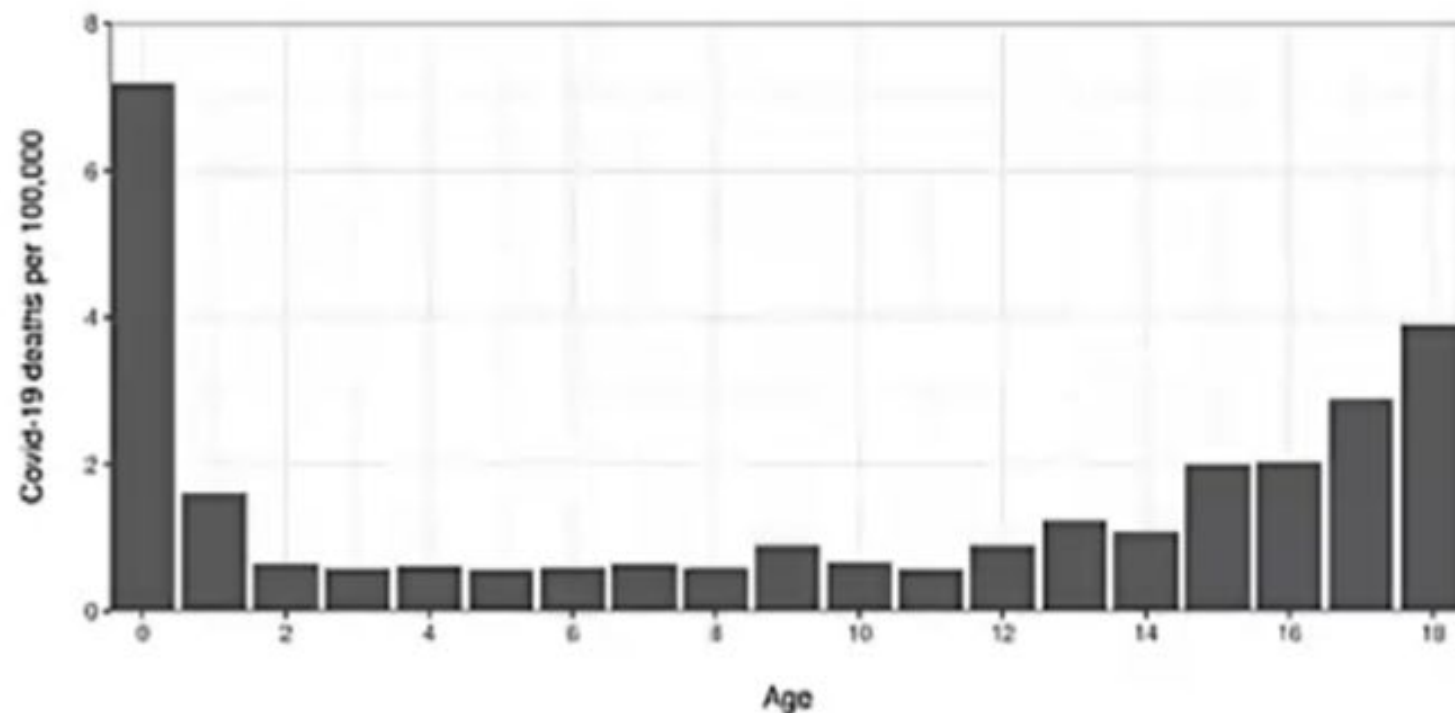
³ Centers for Disease Control and Prevention (CDC). Direct and indirect effects of routine vaccination of children with 7-valent pneumococcal conjugate vaccine on incidence of invasive pneumococcal disease—United States, 1998–2003. *MMWR Morb Mortal Wkly Rep*. 2005 Sep 16;54(36):893-7. PMID: 16163262.

⁴ COVID-NET data, Accessed May 21, 2022.

⁵ Vaccine-type invasive pneumococcal disease annual rate for children <5 years in 1998–1999 was 80 per 100,000, of which about 50% were hospitalized.

COVID-19 death rate among children by age, United States, March 1, 2020—April 30, 2022

- Based on cumulative total incidence, COVID-19 is the **leading** cause of death among **infectious diseases** for people ages 0-19
 - COVID-19 is the **seventh** most common of **all** causes of death for people ages 0-19
- Among people ages 1-4, COVID-19 is the **fifth** most common of **all** causes of death



Based on death certificate data from the National Center for Health Statistics. COVID-19 based on cumulative total incidence of COVID-19 deaths from March 1, 2020-April 30, 2022.

Source: Preprint: Flaxman S, Whittaker C, Semenova E et al. Covid-19 is a leading cause of death in children and young people ages 0-19 years in the United States. medRxiv 2022.05.23.22275458; doi: <https://doi.org/10.1101/2022.05.23.22275458>

COVID-19 is a leading cause of death among children ages 0–19 years

March 1, 2020–April 30, 2022

Age group	Rank of COVID-19 among causes of death
<1 year	4
1–4 years	5
5–9 years	5
10–14 years	4
15–19 years	4

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022
Based on death certificate data from the National Center for Health Statistics. COVID-19 based on cumulative total incidence of COVID-19 deaths from March 1, 2020-April 30, 2022.

Source: Flaxman S, Whittaker C, Semenova E et al. Covid-19 is a leading cause of death in children and young people ages 0-19 years in the United States. medRxiv 2022.05.23.22275458; doi: <https://doi.org/10.1101/2022.05.23.22275458>

Pediatric vaccine preventable diseases:

Deaths per year in the United States prior to recommended vaccines

	Hepatitis A ¹	Meningococcal (ACWY) ²	Varicella ³	Rubella ⁴	Rotavirus ⁵	COVID-19 ⁶
Age	<20 years	11–18 years	5–9 years	All ages	<5 years	6 months – 4 years
Time period	1990–1995	2000–2004	1990–1994	1966–1968	1985–1991	Jan 2020–May 2022
Average deaths per year	3	8	16	17	20	86

¹Vogt TM, Wise ME, Bell BP, Finelli L. Declining hepatitis A mortality in the United States during the era of hepatitis A vaccination. *J Infect Dis* 2008; 197:1282–8.

²National Notifiable Diseases Surveillance System with additional serogroup and outcome data from Enhanced Meningococcal Disease Surveillance for 2015–2019.

³Meyer PA, Seward JF, Jumaan AO, Wharton M. Varicella mortality: trends before vaccine licensure in the United States, 1970–1994. *J Infect Dis*. 2000;182(2):383–390.

doi:10.1093/315714

⁴Roush SW, Murphy TV. Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. *JAMA* 2007; 296:2155–63.

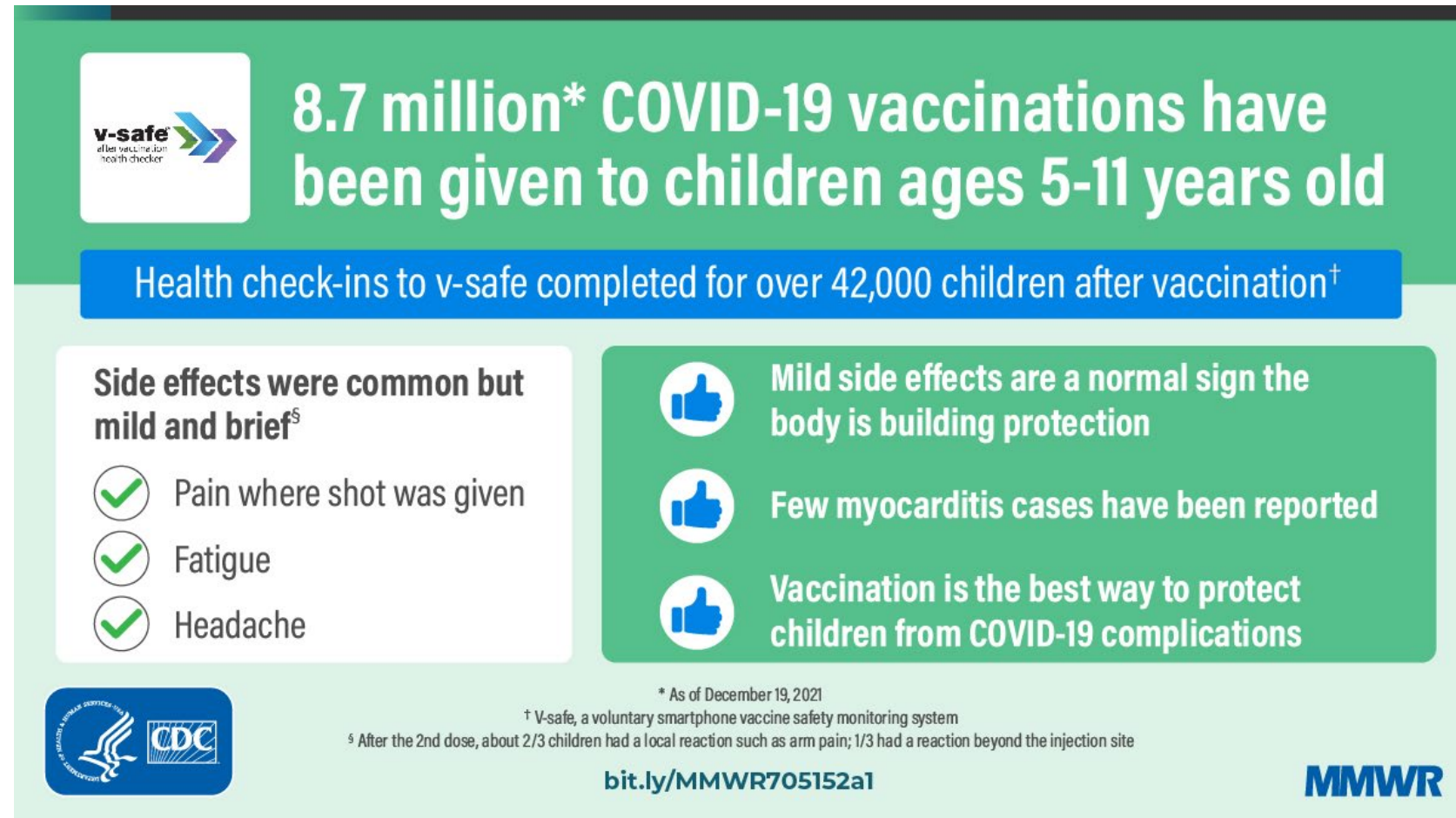
⁵Glass RI, Kilgore PE, Holman RC, et al. The epidemiology of rotavirus diarrhea in the United States: surveillance and estimates of disease burden. *J Infect Dis*. 1996 Sep;174

Suppl 1:S5–11.

⁶<https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-Counts-by-Age-in-Years/3apk-4u4k/data>.

COVID-19 Vaccine Has Proven to be Safe for Children in Other Age Groups

- In *preauthorization* trials for Pfizer-BioNTech COVID-19 vaccine, vaccinated children aged 5–11 years reported mild to moderately severe local and systemic reactions
 - **No serious vaccination-related events were noted**
- After *authorization* of Pfizer-BioNTech COVID-19 vaccine for children aged 5–11 years during October 2021, and administration of approximately 8 million doses, local and systemic reactions after vaccination were reported to VAERS and v-safe for vaccinated children aged 5–11 years.
 - **Serious adverse events were rarely reported**
- Parents and guardians of children should be advised that local and systemic reactions are expected after vaccination and are more common after the second dose



Peds (< 5 years) Vaccination Progress

COVID Vaccine Doses Administered by Person's Residence

Dashboard Updated: August 3, 2022. Doses administered are reported according to where the patient lives and the date they were vaccinated. Non-Michigan residents vaccinated in Michigan can be found by selecting "Non-Michigan Resident" in the County drop-down. Providers have 24 hours to report vaccinations to MDHHS. MDHHS pulls the data each morning for cleaning and posting.



Preparedness Region

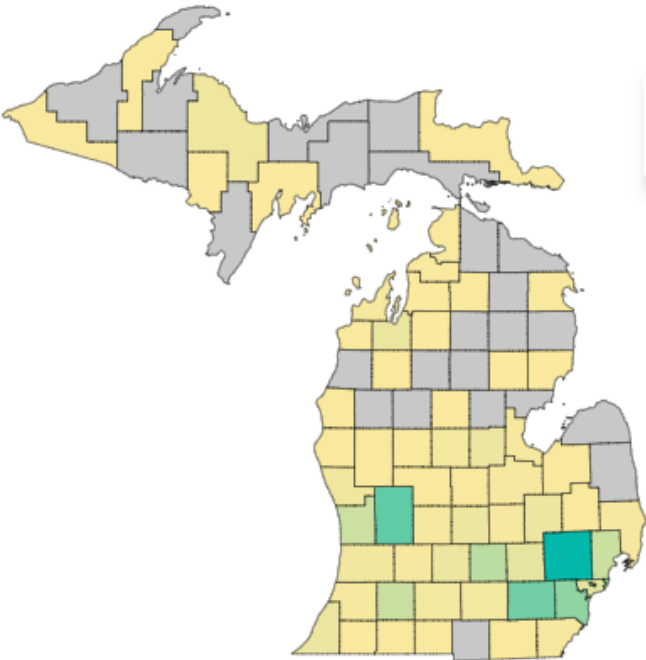
Local Health Dept. Jurisdiction

County

Provider Type

Dose Number

COVID Doses Administered by County



Michigan

Data as of:
8/2/22

Week Ending Date

12/19/2020 8/6/2022

Sex

All

Age Group

under 5 years

Number of COVID Vaccine Doses Administered

28,721